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Education of Partially Seeing Children

THE Committee on Education of Partially Seeing Children is one of the standing advisory committees of the National Society for the Prevention of Blindness. On October 5, 1951, the members of this committee met in New York City to review over-all policies and programs in this field of special education and to make recommendations to the National Society regarding future plans and action. This is the official report of the committee meeting.

THE first class for partially seeing children in America was established in Boston in the spring of 1913. At that time Dr. Edward E. Allen was Director of Perkins Institution and Massachusetts School for the Blind and it was largely his efforts that convinced the educational authorities of the need for these special facilities.

A number of organizations and interested individuals worked with Dr. Allen to bring about the establishment of this first class. Among the latter was Mr. Edward M. Van Cleve, then Superintendent of the Ohio School for the Blind and later Principal of the New York Institute for the Education of the Blind. In 1915 Mr. Van Cleve was appointed Managing Director of a newly established organization, The National Committee for the Prevention of Blindness, which was later to be named the National Society for the Prevention of Blindness. Naturally, his interest in the education of partially seeing led Mr. Van Cleve to include activities on their behalf in the program of the Society. On November 26, 1918, he wrote:

> Classes for the conservation of vision in the public schools have been established in sufficient number and have continued long enough to justify the conclusion that they fill a long felt want and that their successful operation should be advertised and boards of education induced to establish such classes wherever needed. Massachusetts had the first organized class and in that state ten such classes are now being conducted by methods peculiarly adapted to children with defective vision who would otherwise be a neglected group in the school system. These children do not properly look to a school for the blind for their training. Special methods and appliances are needed for them but not those adapted to the education of the blind. These classes are aptly called "sight-saving classes" or "classes for the semi-sighted," never "classes for children of defective sight" or "classes for the semi-blind." The distinction perhaps is

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obvious, but it is proper here to point out that the popularity of the classes is enhanced and the willingness of parents to have their children attend them is secured by laying emphasis upon the conservation element in their purpose.

The Society's philosophy and policy thus crystallized formed the basis of its active, early participation in this field, and through the years this philosophy has been the prevailing one in all parts of America.

Patterns of Education

There are in the United States at present four distinct patterns of educating partially seeing children. Each one of these is herein evaluated in relation not only to present-day educational philosophy, psychology, and method, but also to principles of child growth, development, and guidance.

1. Placement in Schools for the Blind

Until the establishment of special myope schools in England in 1908 some partially seeing children in all countries, including the United States, were educated in schools for the blind. However, as early as 1802, it was recognized that partially seeing children should not be educated with blind children. Why not?

First, because partially seeing children are sighted and therefore receive most of their environmental impressions through the sense of sight. Since this is so, most of the methods and materials used in educating them utilize visual stimuli. Blind children, on the other hand, use the sense of touch instead of vision and therefore require entirely different educational tools and techniques.

Second, since all available statistics indicate that the majority of partially seeing children will never be totally blind, it is psychologically and pedagogically unsound to expose them constantly to blindness and to methods and environments used in teaching the blind. Also, following their years of formal education, partially seeing individuals are expected to live with their normally seeing companions, with whom they have to compete for a livelihood.

Third, for the large majority of partially seeing children, enrollment in a school for the blind means institutionalization. Most authorities in the fields of social work, education, and child psychology feel that children develop to optimum advantage physically, mentally, emotionally, and socially, only when they are reared in their own homes and communities.

Fourth, those who advocate education of partially seeing children in schools for the blind ignore the fact that the original reason for the establishment of residential schools was to educate the blind with their peers. When partially seeing children are brought into these schools, the blind take a position inferior to that of the partially seeing, so that the latter either are given a false feeling of superiority or are assigned such tasks as cleaning, bedmaking, or threading needles.

Fifth, when partially seeing children are removed from their own communities, local school boards and superintendents are relieved of the financial and educational responsibilities attendant upon establishing facilities for the handicapped. Although the immediate problem has apparently been met, the solution of the long-range

problem is postponed further; for there will be other partially seeing children from these localities demanding attention in the future. One of the recommendations of the recent Mid-century White House Conference on Children and Youth reads, "That local boards of education accept full responsibility for planning and providing adequate educational programs and services, including special services, to meet the needs of children with physical and mental limitations and that state departments of education accept responsibility for leadership service in realizing this objective."

In view of the disadvantages outlined above it is disturbing to note that the number of organized classes for partially seeing children in schools for the blind has increased sharply during the past few years. In 1936, only four state schools had such classes; in 1950, eighteen schools reported a total of more than thirty classes. Although the trend continues upward, all the evidence justifies considering this a retrogressive trend, one which must be reversed if the partially seeing children involved are to receive a total educational opportunity equivalent to that of their normally seeing companions.

2. Placement in Special Schools

The plan of placing partially seeing children in special schools is somewhat better than that of placing them in schools for the blind in that the partially seeing are not constantly identified with blindness and hence do not suffer from the adverse psychological and social effects resulting from this close association. Then, too, there is a much greater possibility that partially seeing children will be kept in their own communities or within easy commuting distance.

However, in special schools, partially seeing children are usually members of a segregated group, "the sight conservation class," and they engage in cooperative activities only with children who are "abnormal" in some respect—the hard of hearing, deaf, epileptic, cardiac, or palsied. Besides, partially seeing children do not need the whirlpool baths, pools, occupational therapy, physical therapy, and the other expensive equipment and facilities provided in these special buildings and really designed to benefit other groups of exceptional children.

The widespread interest in all areas of special education throughout the country has caused an increase in construction of special schools and centers. In so far as these centers include classes for partially seeing children, this trend, too, must be looked upon as undesirable. Since many of these special schools are located on college campuses and serve as major teacher training centers, prospective teachers are exposed constantly to less than the most desirable methods. This tends to perpetuate an educational pattern for the partially seeing which has never been accepted by authorities in America.

3. Placement in Segregated Classes in the Public Schools

The first class for partially seeing children in the United States was set up as a segregated class. Its chief advantage over the plan of placing the child in a special school is that it allows the partially seeing child to have some, albeit casual, contacts with normally seeing children who are housed in the same building. Also, with this

type of arrangement more partially seeing children can be served in their own communities. However, the ill effects of segregation and its consequent stigmatization are very real, not only to the children enrolled but also to their parents and to the professional personnel serving the children. Ophthalmologists, psychologists, social workers, and orthoptists are increasingly vocal in expressing their dissatisfaction with all segregated educational programs.

4. Cooperative Placement Plans

In the fall of 1913, Dr. Robert B. Irwin, who was then in charge of the special classes for blind children in the city of Cleveland, Ohio, initiated the cooperative system for educating partially seeing children. There are two types of cooperative placement, depending upon the homeroom situation of the child. In one type, the most prevalent up to now, the child is enrolled in a special "sight-saving" class which serves as his base of operations. He leaves this class several periods each day to join his normally seeing classmates in all activities not requiring continued use of the eyes. All close eye work is done in the special classroom under the direction of a specially prepared teacher.

More recently, communities in several states have enrolled partially seeing children with the normally seeing in regular classrooms. The partially seeing children remain in their homeroom for all school activities, curricular and extracurricular, excepting those requiring concentrated eye work, for which they use the specially equipped classroom. This plan accentuates the positive attributes of the child and minimizes his handicap; and, in effect, the specially prepared teacher has the same responsibilities and professional duties as in the preceding plan. As a matter of fact since, in so many of the modern schools, all classrooms actually embody sight-saving principles, the visually handicapped child has less need than formerly to resort to the special environment offered by the special classroom.

Analysis of enrollment data from all parts of the country indicates that the total number of children in established classes is dwindling steadily. Opinion studies seem to show that this is due in no small measure to parental and professional resistance to the psychological and social disadvantages resulting from even limited segregation and stigmatization.

Therefore we urge the Society to continue to advocate the establishment of cooperative facilities in preference to any of the other three patterns of educating partially seeing children.

If adverse trends are to be reversed and desirable ones augmented, there must be some national voluntary agency to spearhead the necessary research and education. Throughout its more than forty years of existence, the National Society for the Prevention of Blindness has provided outstanding professional leadership in all problems relating to the health, welfare, and education of partially seeing children at both the national and international levels. It is the only voluntary agency equipped to carry on this program, and to which, admittedly, educators and others concerned with the total welfare of the partially seeing child the world over, have looked for authentic information and advice.

Therefore, it is unanimously recommended that the National Society for

the Prevention of Blindness continue all its professional activities in this important field of special education and that this phase of the Society's program be strengthened and expanded in every possible way. An even more aggressive future policy and program are needed if all partially seeing children are to receive the care and education essential to realize their rightful place in a democratic society.

Respectfully submitted:

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"He who would really benefit mankind must reach them through their work."—HENRY FORD.

Survey of Ocular Conditions Among the Navajo and Hopi Indians

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New York, N. Y.

OBSERVATIONS of a brief survey of the eye conditions among the Navajo and Hopi Indians, as well as some of the physical and social circumstances affecting these conditions.

IN July, 1951 I visited the Navajo and Hopi Indian Reservations to survey and evaluate the existent ocular conditions and problems. Because of the recurrent rumors of either real or threatened epidemics of trachoma on the Navajo Reservation, I was particularly concerned with a first-hand evaluation of the actual extent of trachomatous infections among these people. Once on the Reservation I was confronted with another and in its way equally pressing problem—the need for refractions and eyeglasses for the school children. I was interested as well in evaluating the general picture of the ocular care provided.

General Conditions

Navajo living conditions are chiefly characterized by absence of hygiene, due to extreme poverty. The Navajo Indian Reservation is located in semi-arid and partially desert land where water supplies are exceedingly sparse, and frequently non-existent. The Navajos themselves are semi-nomadic and live in scattered, isolated houses known as hogans. These hogans are very small, shallow, one-room abodes. The floors are hard-trampled dirt. In the center of the hogan is the cooking and heating fire, as often as not directly on the ground. A hole in the center of the dome-shaped roof is usually the only exit for the smoke.

Under these conditions the entire family lives, works, and sleeps. Disease contracted by one member of the family spreads rapidly to the others. It is noteworthy that tuberculosis and its concomitant bone and joint lesions are the most important medical problems on the Navajo Reservation.

The Hopi Indian Reservation, although it is located in the same general area as the Navajo Reservation, presents a different picture. As a group, the Hopi Indians are better off economically and from the point of view of their general medical status. Most important, perhaps, is the fact that

they live in established villages. Their houses are, as compared to the Navajo hogans, considerably larger and certainly more permanent. Usually they are subdivided into rooms and have stoves or fireplaces for heating, and stoves for cooking. Because of their concentration into long-established communities, medical facilities have been established within the immediate vicinity. Disease can be diagnosed and treatment instituted with greater facility. Moreover, it is possible to follow up such treatment.

Trachoma

At one time, trachoma ranked highest among the ocular diseases afflicting the Navajo and Hopi Indians. With the introduction of the sulfa drugs, the greatest part of the trachoma problem was eliminated and many of the cases arrested. However, because of the living conditions among the Navajos particularly, the potential still exists. The inaccessibility of the Navajos militates against early diagnosis and control. Poor and unhygienic living conditions combined with remoteness from medical care present the ever-present danger of another epidemic of trachoma.

Very few cases of trachoma are seen in the eastern portion of the Navajo Reservation or in the Hopi Reservation. Conversations with the doctors stationed at the Fort Defiance Hospital, at the Ganada Presbyterian Mission Hospital, and with the acting medical director of the Navajo Reservation reveal a virtual absence of trachoma as a problem. An ophthalmologist who was working in this area of the Reservation reported that he did occasionally see cases of recurrences of old trachoma. However, during his stay of more than a year, he had seen practically no new cases.

The situation in the western part of the Reservation, where the poverty and isolation are more intense, is not nearly so encouraging. Doctors at the Winslow Indian Hospital and the Tuba City Hospital which serve this area report that they not only see many recurrent old cases, but also relatively frequent new cases of trachoma. Their records indicate that they see about 10 cases a month of both fresh and recurrent trachoma.

Personal Observations

My own examinations and on-the-spot observations of the Navajo and Hopi Indians confirm the trachoma reports of the doctors working in the area. This is true as well of the spot checks conducted among some of the other tribes in the southwest area. An examination of 95 Hopi Indians living in old Oraibi and Polacca revealed the following:

1. Of 18 adult males examined, 7 had old, healed, inactive trachoma; 2 had pterygia; and 9 were completely normal.
2. Of 33 female adults examined, 9 had inactive cases of old, healed trachoma; one woman had a conjunctival inflammation which might have been early trachoma; one woman had an active, recurrent trachoma; 3 women had pterygia; and 17 were normal.
3. Of the 45 children examined, no active or old trachomatous lesions were found.
4. Furthermore, among the 50 adults who represent a good cross section of various ages, only one cataract was seen.

It is of interest that all the inactive, healed cases of trachoma were present

among people in their middle age. The original onset of the disease dates back twenty years or more, at which time trachoma was epidemic among the Hopi as well as Navajo Indians.

Spot checks on smaller numbers of people in the villages of Acoma, Santa Domingo and Jemez similarly reveal no fresh cases of trachoma. Living conditions among these peoples are similar to those of the Hopis. In Acoma, I did see one case of old, recurrent trachoma.

At the Tuba City Hospital, which is located in the western part of the Navajo Reservation, I was able to examine a number of cases of both fresh and recurrent trachoma. The recurrent trachomas display the unmistakable stigmata—typical scarring of the conjunctiva of the upper lid, corneal opacities, and pannus. As for the new cases, clinically they have the appearance of trachoma. Laboratory tests would be valuable in confirming the diagnosis.

Trachoma among the Indians will remain an unsolved problem until it is entirely eradicated. The presence of these foci can readily reactivate another epidemic. Nor will the problem be resolved until there are no more new cases.

It has obviously been much easier to control and treat trachoma among the Hopi and other Pueblo Indians. Hospitals and other medical care are within relatively easy reach. The effectiveness of an anti-trachoma campaign is well demonstrated. All the old cases are arrested and there are practically no new cases to be found.

The Navajo Indians remain the points of focal spread. Their scattered and impermanent hogans are far removed from the medical services available. Their living conditions promote the spread of infection from one person to another.

Refraction for Children

There exists both on the Navajo and Hopi Reservations an urgent problem in the care of children's eyes. A great number of the children are handicapped in acquiring such education as is available primarily because they do not see well. The requirement here is not only for refractions for all these children, but as well the provision of glasses for those who need them.

This was the ocular problem which was brought up immediately in each of my conversations with the various doctors at the hospitals on the Reservation, and especially in my conversations with the ophthalmologist then resident at Fort Defiance. This same problem also was brought up promptly in my conversation with teachers at the various schools.

At the time of my survey the Navajo and Hopi Reservations combined, consisting of over 75,000 people, had one ophthalmologist. He performed not only the medical and surgical ocular care for all these people, but he had, in addition, to leave his hospital on field trips to examine and do refractions on the school children. Extremely poor roads and lack of transportation facilities preclude the possibility of bringing the children to any one hospital. Obviously no one individual can encompass so enormous a task.

It is significant to note too, that even after the ophthalmologist makes his field trips and refracts the school children, many months elapse before the children receive their eyeglasses. And in a great many instances, where

the families cannot afford the cost, the children never get the glasses at all.

Other Ocular Problems

It is readily apparent that in a population of 75,000 people, trachoma and refractions of children are not the only ocular problems. There exists at all times, in addition, the large variety of medical, therapeutic and surgical ocular problems.

Even under the most favorable conditions, one ophthalmologist could not take care of all the ophthalmic surgical and medical problems found. In the case of the Navajos where distances, transportation, and communication present abnormally severe difficulties, the effectiveness of the doctor is even more severely limited. At best his services are available only to those living in the immediate vicinity of the hospital at which he is stationed, to those he can see on his occasional field trips, and to those transferred from other hospitals because of their extreme need.

Suggested Solutions

Trachoma

To eradicate trachoma among the Navajo Indians would require something more than the medical services now available to them. It would require one or more mobile units, each staffed by an ophthalmologist and some public health nurses. Such medical units would have to be equipped to go to the Indians living in the hogans and to provide on-the-spot treatment rather than wait for the Indians themselves to recognize the urgency for treatment. Before the trachoma patient can recognize his disease, the likelihood is that his entire family will have been infected.

What with the distances involved, the sparse motor transportation, poor or even nonexistent roads on the Reservation, combined with the superstitions and prejudices of the Navajos, the present medical installations are of but limited utility. From a public health point of view, mobile medical units would be the surest and most efficient method of handling the problem of trachoma eradication.

Refractions

To solve the problem of refracting the school children and providing glasses for them, the same mobile units mentioned above can be brought into use. Such units could be equipped with grinding machines and a stock of average lenses and frames so that the eyeglasses could be dispensed to the patients within a short time. The services of an optometrist would be valuable. Provision must be made as well to supply glasses at no charge, wherever necessary.

The solution of this problem would have more far-reaching effects than merely providing eyeglasses for school children. The basic relationship between scholastic achievement and vision has already been sufficiently established to require no further demonstration here. The rehabilitation of the Indians can in the long run be accomplished only through their education.

Other Problems

Obviously the provision of adequate eye care is the basic requirement. It is imperative, further, that the necessary equipment be provided to permit the effective functioning of ophthalmolog-

ical therapy. No problem can be solved without the presence of trained men and adequate equipment.

The minimum program suggested would put the ocular care of the Navajo and Hopi Indians on an effective basis and would lead to the prevention of blindness among these people. The physicians now working on the Reservations are doing the best they can under the circumstances. But the problems involved are greater than they can cope with. Only additional help as well as equipment can effectively bring about the complete control of trachoma and improved eye health and efficiency among the Indians on these Reservations.

Walter Brackett Lancaster, 1863–1951

The Board of Directors of the National Society for the Prevention of Blindness, in meeting on December 13, 1951, recorded with sadness and a deep sense of loss the death of Walter B. Lancaster, M.D.

His achievements as skilled ophthalmologist and surgeon, distinguished scientist, renowned author and inspiring teacher will be chronicled in professional and scientific annals. It is his active and generous participation in the lay movement to prevent blindness that is here gratefully acknowledged.

As a member of the Board of Directors since 1935, he helped immeasurably in the task of formulating and promoting the Society's policies and program; by word and deed he emphasized the Society's role in the prevention of eye tragedies from disease and from accidents through professional and public education, through advancement and support of research, and through improvement of related health and environmental conditions. . . .

Among the many honors conferred on him was the award in 1943 of the Leslie Dana Gold Medal, offered annually for outstanding service in the prevention of blindness field.

Friends and colleagues joined to pay him warm tribute in the Winter, 1951, number of the Society's quarterly, THE SIGHT-SAVING REVIEW, dedicated to him in appreciation of his professional attainments and personal qualities. This issue of the journal now must serve as a memorial to Walter Brackett Lancaster, whose most enduring monument has been fashioned by his own works.

Ophthalmic Care in a Braille School

Alston Callahan, M.D., *Professor of Ophthalmology*

Medical College of Alabama, Birmingham, Alabama

A FOUR-year report of the ophthalmic service to the Alabama Institute for the Deaf and Blind by the Department of Ophthalmology of the Medical College of Alabama, January, 1948–December, 1951

THE eye department of the Medical College of Alabama was formed in 1946 when the Medical College was reorganized into a four-year medical school, and has become the center for clinical eye service for the State of Alabama. The first responsibility for the eye department, as well as for all other clinical departments, was the Hillman Hospital Clinics, which are exclusively for Jefferson County indigent patients. At this time the Alabama Sight Conservation Association, a project of all Lions Clubs in Alabama, equipped the eye clinic, and has been generously supporting it ever since. The Association began paying the hospitalization costs of all out-of-Jefferson-County patients in the state of Alabama, thereby extending the Department of Ophthalmology's clinical responsibility to the entire state.

In 1947, Charles A. Thigpen, M.D., of Montgomery, Alabama, made possible the conversion of one of the sixteen floors of the Jefferson Hospital into an eye hospital unit. There are two operating rooms, thirty beds, and space for administrative offices, orthoptics, photography, art, and an eye laboratory. In 1948, the Ingalls Foundation began making an annual grant to the eye department to permit orthoptics, without charges, for all indigent patients who were referred by their eye physician.

This article describes how in 1948 the eye department began rendering complete ophthalmic service to the Alabama Institute for the Deaf and Blind at Talladega, Alabama. In 1951, the eye department began rendering ophthalmic service for the Eye Division of the State Crippled Children's Service.

History

Since 1867, blind and deaf children of Alabama have been educated by the State at the Alabama Institute for the Deaf and Blind at Talladega, Alabama, a small city 50 miles from Birmingham. The current enrollment is 263 blind and 562 deaf students. Excellent general medical care has always been furnished the children, but only emergency care for eye, ear,

nose and throat conditions was available at the school. Visual and hearing examinations were not made on admission, and the only requirement for entrance was a letter of referral from the family physician, who was often a general practitioner. The criteria for admission were not well established or well understood. Patients with amblyopia ex anopsia in one eye but visual acuity of 20/20 in the other were enrolled, and such cases presented a puzzling problem of education. There was no provision for instruction of partially seeing children, or any difference in the instruction for different visual acuity levels. In late 1947, the available help ceased with the death of the local eye, ear, nose, and throat specialist.

At this time, Roy Kracke, M.D., the late Dean of the Medical College of Alabama, and I visited Dr. H. E. Dowling, its President, now deceased, and offered ophthalmic care to the Institute. Gilbert Fisher, M.D., of the Department of Otolaryngology offered similar assistance. The offers were accepted immediately, and the Institute assumed the financial responsibility for an additional eye resident for the Department of Ophthalmology. Because of the geographic separation of the Institute from the Medical College, a routine schedule was devised whereby the resident is in Talladega for one or two days each week, examining and treating the eyes of the children in the blind and deaf schools.

Procedures

The eye clinic of the Institute on the Talladega campus is located in its 65-bed hospital. It is supplied with ophthalmic equipment, including a trial set of lenses, a slit lamp microscope, a giant ophthalmoscope, a prism set, a phorometer and surgical instruments for chalazion and pterygium surgery. The eye clinic at the Medical College has been admirably equipped and maintained by the Alabama Sight Conservation Association, which is supported largely by the Lions Clubs of Alabama. The resident spends the other part of the week at the Medical College in Birmingham, making more detailed studies of difficult cases, securing consultations, and performing and assisting with surgery in indicated cases.

Beginning in January 1948, we have assigned a new resident to the Institute every six months, and have rotated each of our residents through this service. Arthur Steinmetz, M.D., now of Hayward, California, initiated the service. The succeeding residents have been: Drs. Milton Singer, John Fulmer, A. C. Hobbs, Jr., Philip Peter, Philip Weisbach, and Ralph Burroughs. At present, Dr. John Martin is assigned to the Institute. Each of these residents has contributed considerably to the increasing service at the Institute, and has made suggestions in the preparation of this report.

Diagnosis

The first objective has been to make an accurate and detailed diagnosis of each child at the Braille School, which hitherto had not been done by an ophthalmologist. To date, 3345 office examinations and treatments were administered, and there were 345 consultations with the attending staff. From the diagnostic study, the following groups have been classified:

1. Children requiring immediate surgery.

2. Those requiring elective ocular surgery.
3. Those requiring further study to determine whether surgery or treatment was indicated, and to discover general etiological factors of eye diseases.
4. Those requiring ocular and general treatment.
5. Those needing refraction.
6. Those whose eyes could not be helped.
7. Those who should not have been referred or admitted because of vision better than the criteria for admission.

Arrangements were made to operate on groups 1 and 2 and those who needed surgery in group 3. Permission for surgery has been obtained from the parents. In many instances this has been an obstacle to be surmounted because many of the parents were apathetic or antagonistic to surgery. A second difficulty to be solved has been payment for hospitalization. Only a few of the patients could afford it, and getting various civic organizations and private individuals to undertake these costs has required considerable effort and time. This difficulty continued until 1949, when Mr. O. F. Wise, State Supervisor of Vocational Rehabilitation, and Mr. R. B. Bagley, State Supervisor of Crippled Children's Service, with the help of Dr. Bryan, arranged for funds from these sources for hospitalization costs. Also from these sources, funds were available for orbital implants, ocular prostheses, telescopic lenses, glasses and other ocular aids for children of indigent parents.

Surgery

From January 1948 through December 1951, 141 operations have been performed on the children from the Institute. The classification is as follows:

Cataracts	68
Discission (61)	
Extraction (7)	
Enucleations	23
Glaucoma Surgery (goniotomy, trephine, iridencleisis)	21
Strabismus Surgery	9
Plastic Surgery	6
Tension under Anesthesia	2
Removal of dermoid cysts	2
Removal of Implants	3
Optical iridectomy	1
Retinal detachment	1
Suturing of cornea	1
Replacement of conjunctival pursestring (Suture)	1
Examination under anesthesia	1
Removal of foreign body	1
Pterygium transplant	1
TOTAL	141

Operations per year:

Surgery in 1948	28
Surgery in 1949	57
Surgery in 1950	28
Surgery in 1951	28

The visual acuity of nine of these children has been improved sufficiently by surgery to allow their return to the public school system, but the major contribution has not been for those who were returned home, but in the improvement of those who have remained. For instance, further damage from congenital glaucoma was stopped with anti-glaucoma surgery in several cases; a child born without eyes and with shrunken sockets had a complete personality change when her

sockets were enlarged and ocular prostheses were supplied; the blind, tearing and intensely painful eyes of several children were removed.

Medical Care

The assistance given those needing medical care in group 3 and those in group 4 cannot be summarized statistically, but it follows the same pattern. The vision of one child was improved from 20/300 to 20/40 with telescopic lenses. In the medical work-up of the uveitis cases, six unsuspected cases of syphilis and one case of diabetes were discovered. Dental foci of infection were so prevalent that it was necessary to develop a dental clinic for the children. The studies therefore set in motion many beneficial investigations outside of the field of ophthalmology. Also, several clinical investigative studies have been made in ophthalmology.[1,2,3]

Refraction

Each child in both schools of the Institute, in whom there was the slightest possibility of improvement with lenses, was refracted. Two hundred and fifteen refractions have been performed. With the improvement in vision provided by glasses, 21 of the children were returned home to attend public schools. Again, the major contribution of the refractions was the improvement in the lot of those who remained.

Other

About 180 children could not be helped either by treatment or surgery because of non-remedial defects such as binocular phthisis bulbi, albinism, and retinitis pigmentosa.

There were 43 children who should never have been referred to the Institute because of good visual acuity in at least one eye.

Criteria for Admission

The causes of blindness in the State of Alabama were reported to the National Society for the Prevention of Blindness on their diagnostic forms. Later Dr. Weisbach and Dr. Peter card-indexed all cases according to the standard A.M.A. nomenclature, and this system has been kept up to date. Also, in 1949, the admission criteria developed and recommended by the National Society for the Prevention of Blindness, upon our endorsement, was officially approved by the Board of Trustees of the Alabama Institute for the Deaf and Blind. These criteria were adopted also by the Alabama State Medical Association at its annual meeting. A copy of these admission requirements was then sent to every doctor in the state through the courtesy of the *Journal* of the Alabama Medical Association. Since this reminder, Alabama physicians have referred more children. These criteria are closely followed in the examination of the 25 to 30 new pupils that apply for admission each year.

Classes for the Partially Seeing

Only two or three of the larger Alabama cities have sight-saving classes, and frequently children whose best vision is between 20/70 and 20/200 are referred to the Institute. Realizing the need for a center for the education of these children, President Bryan organized classes for the partially seeing with the active cooperation of Professor Frank Harwell, Talladega City school superintendent. These classes were affiliated with the public school

system. In the second year of organization there are 45 pupils. At school the pupils are associated with the children in the regular classes and have the same classroom subjects, but use slightly modified equipment. Their diplomas are from the Talladega High School rather than from the Institute, which increases the probability of their finding employment.

Crippled Children's Service—Eye Division

Through the interest of President Bryan, the State Crippled Children's Service was broadened to include children with ocular defects. This activated the welfare workers of this agency throughout the state of Alabama to find any preschool children who, in the opinion of the county public health officer, might later become candidates for admission to the Institute. Two of these were infants with congenital glaucoma who would have become blind had not goniotomies been performed without delay. The welfare workers also found many children in remote areas of the state whose visual ability was not low enough to qualify for admission to the Institute and yet who could be helped considerably with medicine, glasses or eye surgery. In our Crippled Children's Service—Eye Division, 103 eye operations were performed in 1951.

Instruction in Heredity

Because the older students of the Institute have frequently married each other, instruction in ocular heredity was needed. Several of the students with congenital cataracts are children of parents who met at the Institute and married. Dr. A. C. Hobbs, Jr. prepared an article for the students on this subject at an understandable level for them, and each was given a mimeographed copy of this lecture. An adequate supply of these lectures is kept at the Institute, and a copy is presented to each student as he or she becomes old enough to understand it. A question and answer period, with most of the children asking specific questions about his or her own condition, is held by the residents annually. Since this has been instituted, no two patients with hereditary eye defects, such as retinitis pigmentosa or albinism, have married each other.

General Improvements

It has been stimulating to see the extension of medical care at the Institute. Service in all medical and surgical specialties is now available. The Institute is making great strides in other fields also. Its energetic president, Dr. John Bryan, convinced the Alabama State Legislature of the deplorable consequences of a per diem, per capita appropriation, and the Institute now receives an annual appropriation, regardless of the number of children. The quality of the instruction and instructors is constantly improving, and parents are now actively seeking admission for their handicapped children because of the educational opportunities.

Summary

The ophthalmic improvements achieved at the Alabama Institute for the Deaf and Blind by the Department of Ophthalmology of the Medi-

cal College of Alabama, from 1948–1951 inclusive are described.

Clinic visits	3345
Consultations with attending staff	345
Eye operations	141
Refractions	215

Seventy-three children were returned to their homes and regular public schools: 21 because of the improvement of visual acuity with glasses; 9 from surgery; and 43 erroneously admitted. The humanitarian benefits of these endeavors have been our first concern. They are not easily measured, but the economic gain is obvious.

The admission requirements were clarified, adopted, and made a matter of routine. Children with acuity between 20/70 and 20/200 have been transferred to the sight-saving classes of the Talledega City Schools.

Instruction of the pupils in the heredity of eye disease is given annually.

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To An Ophthalmologist*

By Alice Garland Steele

You, who were that Man—who found a way
To help a child's small sight, to open spaces,
Have seen your project grow, the shining faces,
Of those half-blind before, who see today.
The short, restricted vision—that blank wall
Which spoiled the vista, hid the lovely things,
Has been demolished—the Warder, that dark Bird
Who cast his shadow bleak across the light,
Has vanished in full flight,
And in his place a Skylark sits and sings!
The picture-world is there; no longer blurred,
They watch their small, revolving, colored ball!

To see! I think, in summing what you are,
Appraisement has no finer word than this—
You helped to save your fellows from the night
Because you pinned your faith to one bright star!

* Excerpt from poem written for Dr. Albert C. Snell, Sr., in celebration of his birthday.

Prevention of Eye Accidents to Children

Etta C. Jeançon, M.D.

Los Angeles, California

DESCRIBES the experience of a Los Angeles hospital with children's accidents and the child safety education program which was inaugurated to reduce the frequency of such accidents.

ABOUT five years ago, my interest in childhood accidents was aroused when I was called to Children's Hospital to take care of six children with severely injured eyes from a variety of accidents, all occurring in one month. The admissions were:

1. Boy of five, shot in the eye with a bow and arrow.
2. A little girl opening a knot in her shoelace with an ice pick. The pick slipped and penetrated her eye.
3. Boy of three with penetrating injury by a nail.
4. Boy of about ten, hit in the eye with a rock, developed glaucoma, but the eye saved by surgery.
5. B-B gun injury.
6. Little girl of four years whose lower lid was almost cut off by falling on a broken dish.

The last three eyes were saved and are functioning normally.

At the same time, in our eye, nose and throat ward, were three little two-year-olds. Two had drunk lye and the third had pneumonia from inhaling a peanut.

These nine cases, all at one time, shocked us into the realization that here was a problem that needed investigation. I therefore made a survey of the more severe eye injuries in the period from 1940 to 1944.

Incidence of Eye Accidents

It was found that there were more than one hundred such cases inflicted by B-B guns, bows and arrows, slingshots, scissors, rocks thrown by some other child, penetrations by sharp sticks used as swords and spears, stiff wires, coat hangers.

The ages of the children involved ranged from two years or less, to fourteen, the greater number from two to nine. About twenty-five eyes had to be enucleated, twenty-five more were badly damaged. The other fifty were discharged as cured, but this does not mean that vision was not impaired.

Another survey of the more severe eye accidents requiring hospitalization

in our Children's Hospital in the past five years, from 1946 to 1950, was made and 92 cases were found. The average age, as in the previous survey, was from 3 to 10 years, a few older, a few younger. Only 7 enucleations were performed. Of course a few of these cases failed to return for continued care and some of these may have ended in enucleation.

In about fifteen cases there was no visual defect. There were fifteen or more that became aphakic. There were numerous severe contusions from blows with rocks, ball sticks, B-B guns. These were usually complicated by hyphaema, blocking of the drainage angle, requiring paracentesis and irrigation of the anterior chamber, which usually ended in complete recovery unless the lens was injured. When the lens capsule has been penetrated and the cortex spills out into the anterior chamber, thorough irrigation is often advisable to lessen the danger of glaucoma and to shorten the period usually required for absorption of this cortex. The inability to keep the pupil dilated is another complication.

In our campaigns against accidents we urge parents to get the child to the doctor or the hospital as quickly as possible so that early use of atropine may prevent adhesions and lessen later complications. Parents are informed that if they lack transportation, a Yellow Cab will give their child precedence over any other call, whether they have money to pay the fare or not, and thus hours of waiting are saved.

The treatment of these cases, of course, varies with the type of injury; careful cleansing and inspection of the wound to determine the procedure; tetanus antitoxin; atropine ointment in iris injury; penicillin or other antibiotics; mild sedation to keep the child controlled; physical examination to determine whether there are systemic complications; X-ray of globe if necessary.

In cases where an eye is lost, it is important to try to comfort the child and the family by the assurance that a monocular child may be as capable as a child with two eyes. Actually, however, depth perception and perspective are lost in monocular vision. Moreover, the psychologic effect, and the lifelong fear that something may happen to the remaining eye, add to the tragedy. In addition, the child who caused the injury is generally as stricken as the injured playmate, and may suffer from a profound sense of guilt which is a factor in his behavior for many years.

Most of these injuries were sustained during play. Brothers and sisters and playmates who are fond of each other, inflict injuries that cause blindness in one or both eyes, because they are not supervised in their play, and parents do not realize the danger until the damage has been done.

Public Education Campaign

With the realization of these facts, the Children's Hospital staff including the young residents, many of whom had young children of their own, became more alert to the situation, and organized and carried out our first "Safety for Children" campaign two years ago. There were talks to parent-teacher groups; to city, county and public health nurses; and to university students, which included many "baby-sitters," hospital auxiliaries, and service clubs. The local newspapers cooperated enthusiastically, sending photographers to the hospital to make photos of

the children. We had displays in downtown windows, and made radio talks. A list of "Rules for Parents" was prepared and 50,000 printed and distributed. These rules, applying to general as well as eye safety, are as follows:

1. Never leave the baby alone in the bathtub. Let the doorbell ring or wrap a towel around the baby and take him with you.
2. Keep medicines and poisons out of reach. Lye looks like milk and ant-paste is sweet. Do not throw away bottles of medicine or cans of lye or other caustics. Empty the bottles into the toilet and put the can of lye under the water tap until the can is empty.
3. Keep matches and cigarette lighters out of reach, and keep little ones away from bonfires, stoves and heaters.
4. Keep handles of pans on the stove turned over the stove.
5. Keep scissors, ice picks, knives, forks, and other sharp instruments completely out of reach.
6. Do not allow children to have B-B guns, bows and arrows, dart sets, knives, unless they can be supervised and taught how to use them, and keep firearms unloaded.
7. Form the habit of closing safety pins, so if one is swallowed, it will go through the G.I. tract in safety.
8. Remove glass eyes and other loose parts of toys that babies play with.
9. Warn against throwing rocks, tin cans, playing with stiff wire, fighting with make-believe spears and swords, slingshots, etc.

The 50,000 pamphlets we distributed seemed only a drop in the bucket, but it helped to carry our first campaign. Then the Prudential Life Insurance Company, through one of our staff, became interested and as a "Public Relations" project, took these rules from our pamphlet, combined them with some excellent photographs of children in hazardous activities, and printed a very attractive small booklet, which has been widely distributed. They also get out a large book of instructions of "Reasons for" and "Methods of" conducting a safety campaign, so simple and complete that any group of interested people could organize and carry through such a project.

Last summer, a leading Los Angeles pediatrician, Dr. Harry Dietrich, presented papers on this subject to the meeting of the American Medical Association, and before the National Society of Pediatricians, and the medical profession is gradually awaking to a realization of the peril to our children.

Experience of Other Communities

Scattered efforts over the states indicate the growing interest of certain individuals and groups. For instance, after one of our local surgeons had removed a B-B bullet from the heart of a little child, which was commented upon by the newspapers, we received a letter from the Wills Eye Hospital in Philadelphia stating that they had had so many lost eyes from B-B guns, from Christmas 1949 to April 1950, that they had appealed to the police department and the City Council. As a result, a City Ordinance making it unlawful to sell a B-B gun in the City of Philadelphia was passed.

The State of Minnesota has appointed a full-time individual for "Children's Safety."

Local Campaign Continues

In Los Angeles, we have just finished our second yearly campaign, with great assistance from our newspapers, with front page notices and pictures of the children. We again had displays of posters in downtown stores and streetcars, radio and television and distribution of our booklet. Six hundred thousand of these have been printed. The work went on in Los Angeles and San Francisco simultaneously, and we feel that we reached many more people this year.

The object of these campaigns is to educate the parents, to make them aware of the numerous hazards around their home so as to eliminate these as far as possible. We try to impress on mothers that in the first year of an infant's life, she alone is chief guardian. Full, complete protection is that infant's right! When he gets to the "toddler" stage, his mother must understand how to lessen her full protection and begin teaching and educating this little bundle of energy, as to what is permissible, what is safe and what is dangerous, what is pleasant and what hurts. Of course, during this period of education we must expect some few minor accidents, like chipped teeth, split lips, bruises, or even a small fracture.

A part of this education involves a certain amount of discipline. Safety depends upon behavior and the child's behavior is influenced by his parents. The child who pays no attention to his mother's advice or instruction suffers not only the immediate injury but the more permanent effect of lack of self-control which habitual obedience develops.

Although children, of course, come under the discipline of school and their teachers, the basic solution of the safety problem depends upon the education of the parents, upon the cooperation of all doctors in repeatedly reminding mothers of these dangers, and in the gradual but constantly increasing education of the child himself.

Learning from Abroad

Several months ago I read a paper on this subject at a Pan-American Medical Meeting in Montevideo, and spoke in several South American cities to medical groups. I was surprised to find that they have very few accidents to children with the exception of traffic accidents. There are three reasons:

1. They have few mechanical and electrical gadgets accessible to their children.
2. They keep more constant supervision over their children.
3. The children are better disciplined and more responsive to parental instruction.

Why can't we do as well? Statistics prove that accidents kill more children than disease. Complete protection should be provided from infancy through two years of age, after which protection decreases and is gradually replaced by education.

Causes and Prevention of Blindness in Children of School Age

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INFORMATION presented in this paper is based on a study of the findings of eye examinations of 4,248 braille pupils enrolled in 45 residential schools and 15 city school systems in 39 states, the District of Columbia and the Territory of Hawaii in the school year 1949–1950, with some pertinent comparative figures for back years.

IT is essential that any agency assuming leadership of a program relating to any specific health or welfare problem also accept responsibility for presenting to the public the facts on which its program recommendations are based. For the program of prevention of blindness in children, the National Society for the Prevention of Blindness derives its most significant data from a series, begun in 1933, of statistical studies of causes of blindness. The material for these reports is compiled from records of eye examinations made by the ophthalmologists serving braille students enrolled in residential schools and day classes for the blind in the United States. We are grateful for the fine cooperation of these ophthalmologists and of the superintendents in the schools participating in the studies.

When examined in detail, these reports show changes which are highly significant. To the extent that changes reflect decreases in blindness from specific causes they offer encouraging proof that blindness is being prevented. When, on the other hand, upward trends or new causes of blindness appear in the data, these problems must also be noted and our prevention programs adapted to meet the challenge.

Blindness Rate

In 1949–50 the total number of children in all kindergarten, elementary and secondary schools in the United States was approximately 28 million, of whom 5,565* were braille

* Includes enrollment of braille students reported by school units participating in the study plus enrollment in all other units as supplied by the American Printing House for the Blind.

students. The blindness rate for the school age group is, therefore, about one in 5,000. The cause of blindness study covered 4,248, or 76 per cent of the total braille students. Ages range between 3 and 25 years, but 93 per cent are between 5 and 19 years, inclusive. However, the age at onset of blindness in most cases (82 per cent) was under 5 years. In almost 60 per cent of the cases the child was already blind at birth, and in many others in which blindness developed at a later date it was nevertheless due to some prenatal influence. Thus it is clear that more emphasis in the program for prevention of blindness in children must be directed toward elimination of factors having a harmful effect on development of the eyes.

Sex as a Factor

The general school population is about equally divided between the sexes, the average ratio being about 103 boys to 100 girls. Data for the blind group in this study show a much higher number of boys—130 males to 100 females. This ratio (which was noted also in a recent study of partially seeing school children) indicates that boys may be more prone to severe visual handicaps than girls. It cannot be attributed entirely to the higher incidence of injury among boys, since the difference is seen also in other causes.

Causes of Blindness

In tabulating data on causes of blindness for this and other studies, a cross-classification showing both the types of eye affections and their causes is used. Some of the more important facts are here presented in condensed tables.*

Prenatal origin, cause not specified, is responsible for the largest group of cases, as indicated in Table I. Nearly half of the total enrollment and more than half of the new pupils (i.e., pupils entering any braille unit for the first time during the year of the study) can be classified no more definitely than this with respect to etiology. These figures tell a tragic story. They offer no clue to the means by which blindness in such cases may be prevented and, at the same time, they indicate that no headway is being made in preventing blindness of this type because of inadequacy in our knowledge of the prenatal factors in blindness. Clearly, research is of paramount importance.

Need for Research

Ophthalmologists, pediatricians and other specialists have investigated the relationship between congenital eye defects and German measles in pregnancy. In several medical centers in the United States tiny premature babies are being studied intensively to discover the cause of retrolental fibroplasia. This affection, which often results in severe maldevelopment of the eyes, appears to be occurring with increasing frequency. It accounted for 2 per cent among new admissions to schools for the blind in 1945–46, 4 per cent in 1947–48, and 8 per cent in 1949–50. We have to find out how to prevent it in order to reverse the upward trend. Specialists now believe that final solution of the problem of eye defects of prenatal origin lies in basic research which will bring to light

* The complete set of tables is available from the National Society for the Prevention of Blindness at cost: 20 cents per set.

TABLE I. CAUSES OF BLINDNESS BY ETIOLOGY, 1949–1950

Etiology	*Per Cent*	
	Total Pupils	*New Pupils*
Infectious Diseases	**13.8**	**8.8**
Ophthalmia neonatorum	5.7	1.2
Syphilis	2.8	2.2
Meningitis	.8	.4
Measles	1.0	1.5
Tuberculosis	.4	.5
Septicemia	.4	.2
Other and not specified	2.7	2.8
Injuries	**7.3**	**6.4**
Play or sport	4.7	3.5
Birth injuries	1.2	1.6
Traffic and transportation	.4	.6
Other and not specified	1.0	.7
Poisonings	**.1**	**.0**
Tumors	**4.6**	**6.3**
General Diseases	**1.5**	**2.9**
Prenatal Origin	**64.1**	**65.4**
Hereditary (established or presumed)	15.6	14.2
Cause not specified	48.5	51.2
Etiology Undetermined or Not Specified	**8.6**	**10.2**
Total—All Causes—Per cent	**100.0**	**100.0**
Number	**4,248**	**807**

all factors contributing to normal vs. abnormal development. Scientists are ready and able to conduct these investigations, but they must depend on the public to help by providing financial support for research projects. Valuable assistance of another type can be given by persons not directly concerned in the conduct of research. These are the parents of children with severe visual handicaps, as well as private physicians, hospitals and agencies who, having knowledge of the facts about individual children who are affected, pass on this information to research units.

Need for Social Service

Another group of cases in which the etiology is unknown is included under the heading "undetermined or not specified," which usually means that the ophthalmologist who examined the pupil on admission to the school for the blind had insufficient information regarding the case history to be able to state what caused the blindness. Undoubtedly, the essential facts in many cases are known to other physicians or to hospitals, public health authorities or welfare agencies which have previously served these children. A school for the blind having a social

worker on its staff could search out the information needed to complete the diagnoses. However, very few schools have such personnel. Moreover, since it is equally desirable that other educational, health and welfare agencies providing services to these children also have access to these facts, some other state agency might undertake this service. If a single state agency having adequate social service staff were given primary responsibility for coordination of all services to visually handicapped children, others could turn to it for help or information. The agency's centralized files could also be used for research purposes.

Heredity

Hereditary factors are most important among the cases of blindness in which the cause is known—16 per cent of the total cases in 1949–50 were presumably of hereditary origin. Even this figure may be understated. When new cases are checked against the cases already in our files we frequently discover familial relationships which the examining ophthalmologists or school superintendents had not noted. Unless the case histories of all members of a family are considered as a group, it is unlikely that genetic origin will be established. Hence, there is little chance that the facts will be used by ophthalmologists or family physicians as a basis for advice to the only persons who can prevent blindness from this cause—the prospective parents in affected families. The figures on blindness of hereditary origin provide additional proof of the importance not only of intensive study of each case to establish the cause, but of centralization of case files. For hereditary cases, centralization on a national basis would yield valuable information, since there is considerable migration of the blind population (from state to state).

Infectious Diseases

Infectious diseases caused one out of seven cases of blindness in the school-age group, but blindness from infectious diseases is definitely decreasing. Whereas our first published report in this series (1933–34) showed 29 per cent due to infectious diseases, the figure for 1949–50 was 14 per cent, and the percentage based on new admissions in the latter year had dropped to 9. These figures, which of course reflect only changes in relative importance of the infectious diseases as a cause of blindness, are confirmed by a comparison of the data for 20 of the school units, which showed a 56 per cent decrease (from 725 in 1935-36 to 319 in 1949–50). To a large extent this reduction is a by-product of the public health program, because control measures which are effective in reducing morbidity and mortality rates for infectious diseases will necessarily reduce blindness from such causes. This explains why there are no cases of blindness due to smallpox, typhoid fever or diphtheria in our current figures. There have also been marked decreases in blindness due to ophthalmia neonatorum and to syphilis. Data on the former have been compiled by the National Society for the Prevention of Blindness since 1906–07. In that year ophthalmia neonatorum accounted for 28.2 per cent of the blindness in the school-age group but by 1949–50 the percentage among new pupils entering the schools for the

blind was quite insignificant (1.2 per cent).

Injuries

Cases of blindness due to injury accounted for 7 per cent of the total in 1949–50. Accidents occurring in play and birth injuries head the list. The former are most often caused by sharp or pointed objects, by blows or falls, by dynamite caps or other explosives, and by BB guns.

Blindness through injury is also decreasing. When the figures for 20 school units for which data were available in both 1935–36 and 1949–50 were compared it was found that there was a 30 per cent reduction in cases due to injury. This decrease has come about mainly through the activities of safety and prevention of blindness agencies which are carrying on public education and campaigns for state legislation regulating the use of fireworks and airguns. At the present time these groups seek the support of parents and teachers to secure comparable Federal legislation prohibiting shipment of fireworks into states in which their use is forbidden except in public displays. Such action is needed because these items are advertised for direct purchase by mail order in comic books and magazines which are popular among children.

Tumors

While blindness due to tumors accounted for only 2.2 per cent of the total cases in 1933–34, the percentage had risen to 4.6 of the total enrollment in 1949–50, and 6.3 per cent of the new pupils in that year. It is not known whether this represents an actual increase in this cause. Possibly the apparent increase is due in part to the known fact that a child now has greater chances of survival after a tumor of the eye or brain has been removed. Or it may be that some of these cases are actually retrolental fibroplasia, mistakenly diagnosed as tumor of the retina because of a similarity in their appearance.

General Diseases

Blindness in the school-age group is attributed to some general disease in only a small percentage of cases. There may be many more, but a definite relationship between a systemic disease and an affection of the eye is often difficult to establish, especially if the disease itself is chronic or its effect on the eye is slowly progressive. The ophthalmologist examining a child in a school for the blind, seeing only the results of the eye affection and systemic disease, could establish the cause only on the basis of dated facts in the general health history of the child. Since these facts are not usually available to the ophthalmologist, our knowledge of the amount of blindness due to specific diseases will remain inadequate unless diagnoses are made while the disease and its eye complications are active. But an even more important reason for early diagnosis is that if a case is caught soon enough and the cause identified, the child has a much better chance of maintaining reasonably good vision. Early case finding is needed. Presumably this is the objective of all health examinations of children, but unfortunately the potentially serious eye conditions are those which might be missed unless the interior of the eye is examined.

TABLE II. CAUSES OF BLINDNESS BY SITE AND TYPE OF AFFECTION—1949–1950

Site and Type of Affection	*Per Cent of Total Pupils Enrolled*	
Eyeball in General		**36.1**
Structural anomalies	25.7	
(multiple 9.2, buphthalmos 8.3, albinism 2.3, microphthalmos 2.1, coloboma 1.1, anophthalmos 0.6, aniridia 0.5, other and not specified 1.6)		
Refractive errors	4.5	
(myopia 3.3, other and not specified 1.2)		
All other and not specified	5.9	
Cornea		**7.4**
Iris and Ciliary		**5.3**
Crystalline Lens		**19.4**
Cataract	15.4	
Retrolental fibroplasia	3.4	
Dislocated lens	0.6	
Choroid and Retina		**12.9**
Optic Nerve, Visual Pathway and Cortical Visual Centers		**14.1**
All Other and Not Specified		**4.8**
Total—All Causes—Per cent		**100.0**
Number		**4,248**

Site and Type of Eye Affection

The largest group (36 per cent of the total) of cases classified by part of eye affected and the type of eye condition are those who have some affection of the eyeball in general. (See Table II.) They are chiefly the cases involving defective development of various parts of the eye. For example, in albinism the eye lacks pigment; in aniridia the iris is missing; a coloboma or hole may be present; the eye may be too small (microphthalmos) or excessively large (buphthalmos, which is the congenital type of glaucoma); or the eyeball may have multiple defects or fail to develop at all (anophthalmos). These abnormalities of structure are of prenatal origin, frequently inherited, but not necessarily so.

The entire eyeball had been affected also in other cases. Most of these were due either to severe infection of the eye, to a particularly destructive injury or a refractive error. Hyperopia (farsightedness) is seldom of sufficiently high degree to cause classification in the blind group, but there is a serious type of myopia (nearsightedness) in which the choroid and retina are affected which may progress to blindness. This should not be confused with the more common type of uncomplicated myopia found in school children. The latter is merely a deviation from the normal. Since it is due to

elongation of the eye, it may progress during the period of growth but finally becomes static and can be fully compensated by eyeglasses.

Blindness was due to affection of the crystalline lens in 19 per cent of the total cases. Included in this classification are cataracts (15 per cent), retrolental fibroplasia,* and dislocated lens. Cataract and dislocated lenses are usually of prenatal origin, often hereditary, but may be due also to a disease or injury. Cases of retrolental fibroplasia are at present classified as of "prenatal origin, cause not specified," as the defect is associated with premature birth, although it is apparently not yet present at the time of birth.

Affections of the optic nerve, visual pathway and cortical visual centers (14 per cent) are next in importance. Many are of "prenatal origin, cause not specified," but they may be due to any of the causes which affect the nervous system, such as brain tumor, injuries involving violent jarring and diseases such as encephalitis, meningitis or syphilis.

The choroid or retina, or both, are affected in 13 per cent of the cases. In more than half of these cases the cause is unknown. Some of the known causes are heredity (e.g., some cases of retinitis pigmentosa); neoplasms (e.g., glioma of the retina, which is frequently hereditary also); and infectious diseases.

Affections of the cornea, with 7 per cent, and affections of the iris and ciliary body, with 5 per cent, are most often due to some infectious disease or to injury, but the cause is unknown in some cases.

* Although originally believed to be an affection of the crystalline lens, retrolental fibroplasia is now believed to be primarily an affection of the retina.

Problems of Educational Placement

Eye examination records of children included in this study provide information on the degree of vision as well as the diagnosis. From the fact that only pupils receiving braille instruction are covered it might be expected that they would all fall within the generally accepted definition of blindness (20/200 or worse in the better eye). This is not actually the case. (See Table III.) In 1949–50, over 7 per cent of those pupils had better than 20/200 central visual acuity in the better eye and 11 per cent were borderline cases (20/200 vision).

Although adequate consideration of each child's needs, rather than a hard and fast rule, should be the basis for decision on his educational placement, it scarcely seems possible that such a large group of children with considerable useful vision need to be educated by touch methods. In most cases they are referred to the schools for the blind because they come from communities making little or no provision for their education as partially seeing. This situation should be forcefully presented to the state education authorities whose responsibility it is to see that the special materials and specially trained personnel required for a state-wide program are provided for the partially seeing.

Problems of Eye Care

Some schools for the blind have never been able to participate in this series of studies because of inability to obtain ophthalmological examinations for their pupils and periodically

others are forced to drop out for a time for the same reason. In addition, records frequently show that the examinations have not been complete or that recommended corrective treatment has not been carried through. A thorough evaluation of the adequacy of medical services and the reasons for gaps in service is beyond the scope of this series of studies. However, records and correspondence from schools indicate that some schools need help in securing needed ophthalmological services for their students and would welcome the cooperation of other agencies on this problem.

Continuity and Coordination of Services

We have mentioned specific gaps in educational and medical services to visually handicapped children noted incidentally in these studies. There may well be others that are equally important. They can be avoided only if the plans adopted for visually handicapped children, both blind and partially seeing, are geared to meet the total needs of each individual child.

Obviously medical, educational and social services can best be provided by agencies and professional groups specializing in each field of activity, but coordination of services to the individual is equally important. It would seem desirable, therefore, to assign to a single agency the over-all responsibility for knowing at all times each child's needs and how these are being met. Such an agency could secure the ophthalmological and other health examinations for the medically indigent child and see that recommendations for corrective treatments are carried out. It could supply competent casework service to give guidance and interpretation to the parents; to seek facilities for all the child's needs; and to aid the physicians, educators and others in exchange of information and coordination of their services. The medical social workers or public health nurses employed by these agencies might be expected to assume responsibility also for various preventive services. For example, in follow-up of children with blindness due to heredity, syphilis, or trachoma, members of the family or other contacts should be investigated.

When workers and parents in any community become aware of the existence of such services they too will refer cases. But the prevention program, to be truly effective, must include special screening procedures for early case finding. Broad cooperative planning would be required, since many of the facilities and services required by these children are not now available, and so must be developed. It is important also that preventive services be made available for all groups in proportion to their need. Facilities for negro children tend to be more limited than those for the white children, whereas our studies have shown that their rate of blindness is actually higher.

Community Programs

Although state programs providing for all essential facilities are required, community planning need not be postponed until this ideal is reached. In most communities local physicians, nurses, social workers and teachers make a special effort to give service when a specific problem of an individual child is brought to their attention.

TABLE III. CHILDREN WHO ARE NOT BLIND IN SCHOOLS FOR BLIND—1949–1950

Name of School	Enrollment	Partially Seeing (a)	Moderate Defect (b)
Total: Number	4,248	228	88
Per Cent	100.0	5.4	2.1
Alabama School for the Blind*	128	13	6
Alabama School for the Blind, Colored Department*	49	..	..
Arizona State School for the Deaf and the Blind	33	4	2
Arkansas School for the Blind*	66	3	..
Arkansas School for the Blind, Colored Department* #	22	2	..
California School for the Blind	161	12	1
Los Angeles Public Schools, Braille Classes (Cal.)*	77	3	1
Colorado School for Deaf and Blind	66	10	8
Connecticut School for the Blind	57	2	..
Washington, D. C., Public Schools, Braille Classes	10	2	..
Florida School for the Deaf and the Blind	90	8	7
Florida School for the Colored Deaf and the Blind	42	5	1
Atlanta Public Schools, Braille Classes (Georgia)	4	..	..
Idaho State School for the Deaf and Blind	15	1	2
Illinois School for the Blind*	191	15	4
Chicago Public Schools, Braille Classes (Illinois)	88	1	..
Iowa School for the Blind*	120	13	6
Kentucky School for the Blind, White Department	120	9	5
Kentucky School for the Blind, Colored Department	13	..	..
Louisiana State School for Negro Blind	42	5	2
Orleans Parish School Board, Braille Classes (La.)	8	1	..
Maryland School for the Blind	88	5	3
Maryland School for the Blind, Colored Department	27	3	..
Perkins Institution and Massachusetts School for the Blind	230	9	5
Michigan School for the Blind*	115	6	4
Battle Creek Public Schools, Braille Classes (Mich.)*	14	1	..
Dearborn Public Schools, Braille Classes (Mich.)*	6	..	..
Detroit Public Schools, Braille Classes (Mich.)*	47	1	..
Grand Rapids Public Schools, Braille Classes (Mich.)*	6	..	..
Jackson Public Schools, Braille Classes (Mich.)*	5	..	..
Minnesota Braille and Sight Saving School* #	59	..	1
Missouri School for the Blind*	136	..	1
Montana School for the Deaf and Blind*	9	..	1
New Jersey Public Schools, Braille Classes*	56	..	..
New York Institute for the Education of the Blind	164	4	4
New York State School for the Blind	153	5	2
Buffalo Public Schools, Braille Classes (New York)*	9	2	..
Lavelle School for the Blind (New York)	47	1	..
North Carolina State School for the Blind and the Deaf, White Department	185	13	2
North Carolina State School for the Blind and the Deaf, Colored Department	112	3	..
North Dakota State School for the Blind	29	5	1
Ohio State School for the Blind*	200	4	1
Cincinnati Public Schools, Braille Classes (Ohio)*	17	..	..
Cleveland Public Schools, Braille Classes (Ohio)*	29	..	..
Youngstown Public Schools, Braille Classes (Ohio)*	10	..	..
Oklahoma School for the Blind	79	1	1
Overbrook School for the Blind (Pennsylvania)*	236	2	1
Royer-Greaves School for the Blind (Pennsylvania)*	47	..	..
Western Pennsylvania School for the Blind*	139	4	..
South Carolina School for the Deaf and Blind	58	5	..
South Carolina School for the Deaf and Blind, Colored Department	18	..	..
South Dakota School for the Blind #	27	2	..
Tennessee School for the Blind, White Department*	125	15	6
Tennessee School for the Blind, Colored Department	38	1	4
Utah School for the Blind*	35	4	..
Virginia State School	45	4	..
Washington State School for the Blind*	64	5	1
West Virginia Schools for the Deaf and Blind**	66	3	..
Wisconsin School for the Blind*	105	9	3
Diamond Head School (Territory of Hawaii)*	11	2	..

* Excludes sight-saving class pupils. ** White school only. # Figures for 1947–1948.

(a) Includes cases with visual acuity better than 20/200 up to and including 20/70 with no peripheral limitation indicated.

(b) Includes cases with visual acuity better than 20/70 with no peripheral limitation indicated.

Quite often this may be all that is needed in the particular case. But, when the problem is one which affects several other children in the community, when the solution involves use of facilities not available in the community, or when the advice of outside experts is needed to determine what to do or how to do it, cooperative action is needed.

A community council representing all professional groups and agencies can be formed to explore the needs, exchange information regarding available resources, and plan to fill the gaps in services. If this is done, the child in need of medical care to prevent blindness will not be neglected; the teacher will know where to turn for the materials and guidance needed for the education of the partially seeing child in his own community, as a sighted person; health and safety agencies will guide and assist parents in protecting children from the eye hazards of disease and injury. The public will be encouraged to support the council's requests whenever private or public action is needed to control hazards or finance services.

Conferences of the leadership group should be held periodically and, when required, for special purposes for joint planning. Necessary instruction of professional and lay workers can be arranged through such services as a series of institutes in the community; special training or observation elsewhere; a library of authoritative references. Residents of the community should be kept informed of resources and how they may be used.

Summary and Recommendations

A series of statistical studies of diagnostic records of children in schools and classes for the blind in the United States provides basic information on the causes of blindness in this age group. Comparison of the data from successive studies shows that substantial progress has been made in reduction of blindness due to infectious diseases and injury. Unfortunately, it indicates also that because causes of blindness are still unknown in a large proportion of the cases, particularly those of prenatal origin, blindness of this type is not being prevented.

The findings of these studies emphasize the following outstanding needs in the program for prevention of blindness among children:

1. Basic research into the factors responsible for maldevelopment of the eyes.

2. Improved services for visually handicapped children, especially expanding broadly the facilities for the education of partially seeing children and for insuring adequate corrective medical treatment and social services.

3. Bringing together over-all responsibility for visually handicapped children in a single state agency which would ensure provision of services to meet all the needs of these children.

4. Cooperative planning of community programs by leaders of all groups having responsibility for provision of services required for visually handicapped children or for prevention of blindness.

The Partially Seeing Child in the Regular Classroom

Effie Gee, *Public School Teacher*

Oak Ridge, Tennessee

DESCRIBES practical experience in integrating partially seeing students into the regular classroom program.

MARY and Bobby are regular members of my class but they use the sight-saving classroom in the school in which I teach. Mary has congenital myopia—prognosis, fair. Bobby received a knife wound in the left eye when he was six years old—prognosis, excellent with exercises.

At the beginning of the year I felt that my first duty was to make them feel that though handicapped in vision they were not different in other respects. To make them feel that a teacher has the same keen interest in them that she has in normal children and the same desire to see them spend the school year to the best advantage was my aim.

In order to help them build self-confidence it was necessary to explain to their classmates the purpose of the special classroom. I began by taking them on a tour of the classroom for partially seeing children to let them see the large-type books, the special furniture and special lighting facilities. The sight-saving class teacher let Bobby and Mary tell us about the room, its equipment and just how their work is carried on.

The two children were in our room to take part in lesson planning and to receive assignments. They went to the sight-saving classroom to do most of their reading and writing and much of the art work.

Spelling

In our schedule of classes spelling usually comes first. An example of how we do a spelling lesson is as follows: On Wednesday I give out the words for the first test to the regular class. When all have finished they grade their own papers using the book. Two good spellers finish their work quickly and then have fun giving out the words orally to Mary and Bobby, the partially seeing students. When a word is missed the youngster giving it out spells the word correctly, giving Mary and Bobby a chance to write the missed word in clear manuscript. This gives them something to work from

and helps to fix the words clearly in mind without using the eyes for words already known.

On days when we do dictionary work Mary and Bobby work in the sight-saving classroom because their book, the large type Winston Dictionary, is too heavy to carry from room to room.

Reading

Next comes the reading period. Much of the reading is done in connection with the unit work but in the early fall I like my fifth graders to concentrate on oral reading for a month or two, depending on how high the interest is in the project. We carry out a program similar to the Chinese reading program recently described in "My Weekly Reader." In a class of 38 children there may be as many as six groups reading on various levels. The better readers may do free reading, within limitations, of course.

Since Bobby is an excellent reader he liked to listen to his talking books and type reports of them which he reads to the class. His studies included such books as: "Birds of the North Woods," "Strange Animals I have Known," by Ditmars, "Our Adventures with The Eskimos," by Helmericks and "Dancing Gods—Indian Ceremonials of New Mexico," by Ferguson.

Mary was reading on fifth grade level and joined the group reading "Days and Deeds," her copy being in large, clear type. She went to the special room for supervised study then came back to our homeroom and took her place in a well-lighted spot for the reading period. She was able to take her turn reading orally, using the following method: while the other children were reading Mary only listened to get the connection, observing when pages were turned. When she reads I indicate the place by saying, "Mary, you may begin reading at the third paragraph on page 234."

Arithmetic

When it is time for arithmetic Mary and Bobby bring their large-type-edition arithmetic books ("Arithmetic for Young Americans," Book 5 by Clark, Hays and Clark) to our room. When seated to best advantage as to lighting and chalkboard, they do the board work with us and enjoy the oral arithmetic drills and problems we do together. When time for supervised study comes, they go to the sight-saving classroom for their written work.

Social Studies

In the field of social studies, let us take for an example a study of Mexico. Since many units have been written on Mexico, I shall give only enough to illustrate how the partially seeing children were able to participate and feel that they were an integral part of the group and were able to learn as much about the subject as the normally seeing children.

During the first planning period such questions as the following were asked:

1. Where is Mexico?
2. What kinds of people live there?
3. Are they like us?
4. What kinds of clothing do they wear?
5. What holidays do they observe?
6. What are their sports?
7. Do they have good roads?
8. What methods of transportation do they use?

9. What is their climate like?
10. Does Mexico have rivers? Mountains?
11. What are their occupations?
12. What kinds of houses do they live in?
13. Do they eat the same kinds of foods we eat?

The children together with the librarian spent the next library period finding books, magazines, pictures, maps, films and slides which they could use to find the answers to their questions. Mary and Bobby were able to read, in addition to their large-type textbooks, such library books as "Manuella's Birthday," by Bannon, "The Village That Learned to Read," by Tarshis, and others. The large-type editions of "Days and Deeds" and "Times and Places," fourth and fifth grade readers, also have stories on Mexico. They were able to gain much information on the subject from the talking book, "These are the Mexicans," by Gerwin, which gives a good picture of the country, its people, government, institutions and customs. Another good talking book on the subject is "The Conquest of Mexico," by Prescott. The other children were actually envious when Bobby brought his talking book and shared the most exciting parts with the rest of us. They felt it would be wonderful to visit Bobby's home and listen with him sometime. After all, Bobby was not to be pitied because he could not view television.

Any child who found a story which he considered would be of interest to the whole class was given the privilege of reading it aloud.

One day a student said, "Let's make our room look like Mexico and dramatize some of the things they do." This statement met with the approval of the entire class.

Together we decided we would try to reproduce a Mexican street market scene and use it as the background for the program. We would make many of the wares to sell in the market. This would involve a great deal of art work, which we planned together with the art consultant.

Partially Seeing Children Active

Committees were organized, each child choosing the project which appealed to him most. Bobby worked with the committee making sombreros. Two of the children brought real sombreros which the committee used as models. They dipped strips of wet paper into flour paste, placed them on the models until the desired thickness was obtained, allowed them to dry, and then removed the hats from the models and painted them in gay colors with tempera paints.

Bobby also helped transform two coat racks into palm trees by winding strips of brown crepe paper around the base for the tree trunk and designing the leaves of heavier paper.

Mary made pottery on the potter's wheel, dried the pieces in the oven and painted them in beautiful pastels. She also made a reed basket, doing it the Mexican way, talking and looking around while her fingers were busy.

While the other children continued their art work Bobby and Mary worked together in the sight-saving classroom on a mural depicting a washday scene on the bank of a stream. The figures were almost life-size. It was one of our best pieces of art work and occupied a prominent place in the room for the rest of the school year.

The two of them also made an awning for a market by painting wide, colorful stripes on a large piece of brown paper.

When it was time to plan the details of the program we decided upon the following scenes:

Scene 1. A street market in action
Scene 2. Mexicans taking a siesta
Scene 3. A wedding procession
Scene 4. Mexican folk dancing
Scene 5. Singing a group of Mexican songs

Selecting the cast of characters: Bobby was content to be a Mexican Indian merchant and take his siesta at the proper time. There had been enough oral reading and class discussion for all to know how to take a siesta even at the market, right on the job!

Mary was chosen for the bride. In order that she would have the necessary information the sight-saving class teacher made a recording of the story the class planned to dramatize. Bill read another wedding story to the class and showed pictures of the bride, the bridegroom and other members of the procession.

Because Mexicans are very fond of music and dancing we had decided to include both in the program. Bobby and Mary had no more difficulty learning the songs than the other class members because the music teacher taught the words by the rote method. The Jarabe was a "must" on the program because it is the Mexican National Dance. All of those taking part in this dance learned it easily for the physical education teacher demonstrated the steps for them. It was a beautiful part of the program.

The boys and girls had great fun calling their wares, haggling over prices and finally selling foods, straw toys, sombreros, baskets, serapes, blankets, mats and jewelry at exorbitant prices. When noontime approached there was a lull in business for many had gone home and the others were sleepy. The merchants and those who were left settled down, beside a tree, leaning against each other, back to back, or on the ground, but all settled down for the siesta.

Suddenly the sleepers were awakened by shouts of: "Here comes a wedding procession." Everyone became excited and jumped up to watch. Mary looked very pretty as the bride in the lovely gown which her mother had made for her.

After the procession had gone by one boy said, "That calls for a celebration. Let's do the Jarabe." Several of the children including Bobby took part in the dancing. Then one of the girls said, "Would you like to sing?" There was a chorus of "Yes," they formed the choir and sang the five songs they had previously learned.

When the children planned the program they decided to invite their parents to see it. In order that we might write letters that the parents would be proud of we studied letter writing. In class we talked about the parts of a friendly letter and how to punctuate the different parts. I wrote a model in manuscript on the green board with yellow chalk as the class dictated it to me. After further discussion we were fairly sure all understood how to write invitations. Mary and Bobby went to the sight-saving classroom to write their letters on the typewriter or to use the special materials provided there while the other class members wrote theirs in our room.

The Forum

THIS section is reserved for brief or informal papers, discussions, questions and answers, letters, and occasional pertinent quotations from other publications.

Prophylaxis of Ophthalmia Neonatorum *

There have recently appeared in various lay magazines several articles and short comments adversely criticizing the Credé silver nitrate prophylaxis for ophthalmia neonatorum and advocating some form of antibiotic prophylaxis, usually penicillin, in the medium of an ophthalmic ointment. The various arguments for and against both silver nitrate and penicillin prophylaxis have been reviewed by various committees of ophthalmologists and have been the subject of clinical investigation in several obstetric clinics. The net result of these reports and investigations is that, although the experiences in various obstetric clinics clearly indicate that a penicillin prophylaxis, administered under proper control, is the equal of and in some respects superior to the established silver nitrate procedure, nevertheless no radical change in the existing laws or regulations requiring the silver nitrate prophylaxis should be recommended at this time.

The Credé method consists of a thorough cleansing of the newborn infant's eyes, the instillation of one drop of a 1 per cent solution of silver nitrate in each conjunctival sac and after one to two minutes the irrigation of the eyes to remove the silver nitrate and any desquamated epithelium. Prior to the introduction of this prophylaxis in 1882, the incidence of ophthalmia neonatorum in the Leipzig Lying-in Hospital was 10.8 per cent and was reported to be over 10 per cent in other obstetric clinics throughout the world. Similarly, the incidence of blindness from ophthalmia neonatorum in 22 German asylums was 30 per cent in 1876. After the introduction of the Credé method, the incidence of ophthalmia neonatorum in the Leipzig institution and other obstetric clinics fell to less than 1.0 per cent, and the incidence of blindness from ophthalmia neonatorum in the blind asylums fell proportionately. At present, ophthalmia neonatorum is a relatively rare complication of childbirth in the United States. Some form of prophylaxis against ophthalmia neonatorum is now required by either law or regulation in all 48 states and the District of Colum-

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bia. In 32 states the laws or regulations specify the silver nitrate method, while in only one state is penicillin mentioned as an alternate procedure.

The opponents of the silver nitrate prophylaxis and proponents of the penicillin method argue that in 50 per cent of the infants treated with silver nitrate chemical conjunctivitis later develops, which, while not serious, is disturbing; that stock solution of silver nitrate may evaporate to the extent that the solution used may become dangerously strong and may actually cause organic damage to the cornea; occasional mistakes such as the use of a 10 per cent solution instead of the proper 1 per cent solution have been made and as a result the infant so treated is permanently blinded; penicillin prophylaxis is equally efficacious in the prevention of ophthalmia neonatorum and carries with it none of the above objections; and that the net value of the silver nitrate procedure lies in the preliminary cleansing of the eye, which is real asepsis, and that the use of strong chemicals such as silver nitrate harks back to Listerian antisepsis.

The ophthalmologists and obstetricians opposing an abandonment of the silver nitrate prophylaxis at this time argue that, while 1 per cent silver nitrate does cause chemical conjunctivitis in a high percentage of cases, chemical conjunctivitis is trivial, and, in hundreds of thousands of cases in which it has been used, there is no record that a properly performed Credé prophylaxis has done any harm to the infant's eyes. It has been proved to be an effective prophylaxis against ophthalmia neonatorum. They further argue that the danger of evaporation or use of a wrong solution is completely obviated by the use of the modern wax ampules and that no possible change of laws or regulations can save an ignorant or careless physician from the results of his folly. While the penicillin prophylaxis is equally efficacious in preventing ophthalmia neonatorum, the ointments or solutions should be kept on ice, and even then they may deteriorate in time. Thus, unless properly preserved and renewed, the penicillin may become inactive. Further, they point to the possibility of sensitization to penicillin and emphasize that neither silver nitrate nor penicillin is effective against the virus of inclusion blenorrhea. Finally they claim that in all probability some new antibiotic will be found that will be effective against both the Gonococcus and the virus and that therefore the time is not yet ripe for recommendations for a change in the already existing laws and regulations.

While there is much truth in both sides of the controversy, the weight of the argument appears to oppose the abandonment of silver nitrate. There is no doubt that the use of penicillin by parenteral injection in the mother before birth of the infant, in the baby immediately after birth, or, preferably, by topical application of penicillin ointment (100,000 units per gram) in the eyes of the newborn infant, all effectively prevent ophthalmia neonatorum and eliminate the later troublesome chemical conjunctivitis. It is equally true that there is more danger of an improperly preserved or old penicillin ointment becoming ineffective than there is of deterioration of the silver nitrate in the modern wax ampules. The danger of sensitization of the infant by one application of penicillin ointment is so slight it may

be dismissed. Present investigation indicates that there is hope that some new antibiotic may have a sufficiently wide spectrum to be effective against both the Gonococcus and the virus of inclusion blenorrhea. Thus, while there can be no possible objection to the use of penicillin prophylaxis in hospital clinics where its use is well controlled, it would appear that any specific recommendations for changes in the state laws or regulations would at this time be premature. It is, however, quite possible that further investigations will permit firm recommendations for a prophylaxis with an antibiotic with a wider spectrum than is possessed by penicillin and without the objections that can now be made against the penicillin procedure.

Early Recognition of Glaucoma

Early detection of glaucoma has long been recognized as a most important factor in preventing loss of vision from this disease, responsible for blindness in one out of eight adults. Undoubtedly much of this blindness could have been prevented if facilities for discovering early signs of eye trouble had been available.

Recognizing the opportunity for preventing blindness from glaucoma through early detection, Miss Evelyn M. Carpenter, Director of the Philadelphia Committee for Prevention of Blindness about nine years ago discussed with Drs. William Zentmayer and Alfred Cowan a plan for making a study of the prevalence of the disease among apparently normal employed persons. Following approval by the Medical Advisory Committee, the Philadelphia Committee initiated the first community glaucoma case-finding project in October, 1944.

There was no pattern for the Committee to follow other than proved methods used in other areas of public health. These experiments were studied and from them Miss Carpenter evolved one believed to be suitable for mass eye examinations to locate symptoms of early glaucoma. The procedure was sufficiently flexible for use in any type of industry or business with large numbers of employees. The following steps were included:

1. Selection of the industry;
2. Presentation of the project to the President or an official designated by him;
3. An educational program to acquaint employees with the service offered jointly by the plant and the Philadelphia Committee;
4. Opportunity for those aged 40 and older to register for the eye examination.

From 1945 to 1947 the Committee entirely supported the project and provided examinations for employees of three large department stores and one insurance company. In 1947 a grant from the Philadelphia Foundation made it possible to speed up the screening and a preliminary report on 3,923 cases was prepared. Presentation of this report at the 1949 Conference of the National Society aroused the interest of the United States Public Health Service and resulted in a grant of $10,000.

Ten thousand persons over 40 years of age, employed by department stores, heavy industries, government agencies, an insurance company and voluntary agencies, have been examined and the data indicate that 2 per cent or 800,000 of the total population in this age range have signs of early

glaucoma. It is interesting to note that rarely was a potential glaucoma patient discovered who had been refracted or treated by an ophthalmologist. However, when a patient had been examined by a specialist, the project personnel contacted him, explaining the procedure and asking his consent to complete the examination. In every instance the previous examiner agreed and received a full report of the findings. When glaucoma was suspected the patient was referred to the specialist who made the original examination for further examination and treatment. The cooperation of the medical profession in this project was most gracious. Among the eye physicians engaged in the actual work were: Doctors Anthony J. Abbruzzi, Solomon S. Brav, O. S. Capriotti, Harry A. Felice, Jacob Katz, H. Peter Kirber, James H. Parker, Victor I. Seidel, Michael I. Wolkowicz.

A recent communication from the Philadelphia Committee indicates that their continuing follow-up of potential cases has resulted in a definite diagnosis of glaucoma in five persons in January, 1952. Some of these patients had been under close supervision for several years. In two, diagnosis was confirmed on tension alone—just a steady increase with no impairment of fields, no fundus changes, no loss of vision, but glaucoma.

The National Society salutes the Philadelphia Committee for their pioneer work in demonstrating a plan for mass eye examinations to find people with early signs of glaucoma. Their efforts have provided procedures of great practical value to all public health agencies concerned with the detection of early signs of disease.

Reports of this work have appeared in the April, 1950, issue of the *American Journal of Ophthalmology* and the November 17, 1950, *Journal of the American Medical Association*. Further details can also be secured directly from Miss Evelyn M. Carpenter, Director, Philadelphia Committee for Prevention of Blindness, 1831 Chestnut Street, Philadelphia 3, Pa.

V. S. B.

Partially Seeing Children

Following is an excerpt from a teacher's letter to the National Society for the Prevention of Blindness, regarding her experience with partially seeing children:

Because my class is small (only 5 students this year), I keep them for sight-saving work in the morning and have them go to the regular room in the afternoon. The good thing that has come out of this is that the children are becoming so much better adjusted socially by spending the whole afternoon in the regular rooms. When they just went in for music and social studies, they were still more or less strange even after two years and after every effort on the regular teacher's part to make them feel at home. I'm wondering if having all the large-type books and other equipment in the regular class isn't almost enough modification in some cases.

MILDRED THOMPSON
Sharon, Pennsylvania

Around the World

Pan-American Congress

The Pan-American Association of Ophthalmology convened its fourth Congress in Mexico City, January 6–12, 1952. In attendance were 1,200 delegates from twenty-two nations. Mexico City was acknowledged an excellent choice as the seat of the Congress, renowned as it is not only for its natural beauty but also its rich cultural and historical background. Here is located, among other great hospitals, the oldest hospital in the Western Hemisphere, the Hospital of Jesus the Nazarene, founded by Cortez in 1527.

Dr. Conrad Berens of New York was President of the Pan-American Association of Ophthalmology. Officers of the Fourth Congress were Dr. Antonio Torres Estrada, President; Dr. Magin Puig Solanes, Vice-President; Dr. Luis Sanchez Bulnes, Secretary; and Dr. Feliciano Palomino Dena, Treasurer.

A wide range of papers was presented. Sir Stewart Duke-Elder of London discussed the value of diagnostic tests in simple glaucoma with particular reference to provocative tests. After describing diurnal phasic variations in ocular tension, he stated that the presence of glaucoma is shown by (1) a phasic variation greater than 5 mm. of mercury, (2) a reactive rise in ocular tension when the bulbar pressure tension is performed during a phase of rising tension, or (3) a rise greater than 8 mm. of mercury occurring when the venous pressure test is carried out during a phase of rising tension.

Dr. L. Pellman Glover of Altoona, Pennsylvania, discussed children's eye injuries and emphasized the need for education.

Dr. Edward Hartmann of Paris pointed out the importance of psychosomatic factors in glaucoma, both acute and chronic. He felt that an understanding of the personality structure of glaucoma patients often is the key to treating their glaucoma properly.

Dr. Everett Wood of Auburn, New York, reported finding six per cent of all adults with wide, deep, physiological cupping of the optic nerve, with irregular distribution of blood vessels around the edge of the cup. He believes that individuals with this type of optic nerve formation are less likely to have glaucoma.

Dr. Michael J. Hogan of San Francisco called attention to the importance of toxoplasmosis as a cause of chorioretinitis in children.

A symposium under the chairmanship of Dr. Lino Vergara, chief of ophthalmic services of the Mexican Institute of Social Security, considered occupational eye injuries. Dr. Fernando Prieto Lopez of Mexico, D. F., reported an encouraging decrease in average days lost from ocular acci-

dents, but called for amending federal legislation to make greater advances to safeguard the working man's vision.

Dr. Bertha R. Noble of New Orleans reported a fairly recent focus of onchocerciasis in Venezuela. She found an average infestation of 29 per cent, with ocular involvement of 21 per cent of those infected.

Dr. Luis Sanchez Bulnes and associates of Mexico City revealed findings of an eye survey of nearly 49,000 school children in third grade. About 25 per cent were found significantly visually deficient. Even after best possible correction there remained several hundred partially seeing children who were so severely handicapped that special adjustments in teaching methods were recommended to provide them with proper educational opportunities.

Dr. Alberto Urretz Zavalia of Argentina proposed the formation of committees in each country to study the teaching of ophthalmology to undergraduate medical students and to oculists in training. He also called for plans to make more effective various postgraduate refresher courses.

Doctors Roberto Wallentin and Francisco Arenas of Mexico reported clinical improvement in 15 of 26 cases of retinitis pigmentosa treated with tissue therapy.

Dr. H. Phillip Venable of St. Louis stated that early glaucoma is prevalent in the Negro and recommended routine tonometric examinations of all Negroes over 30 years who come for eye care, regardless of their complaint. He felt that early glaucoma in the Negro responds well to medical therapy. When surgery is indicated, he considered iridencleisis the procedure of choice as the first operation in wide angle glaucoma and in narrow angle glaucoma which has persisted more than 48 hours.

Dr. Harry A. Pfingst reported on a study of glaucoma at the Veterans Hospital and the General Hospital in Louisville. Since 1946, there were 101 glaucoma patients of whom 77 per cent were Negroes at the Louisville General Hospital and 75 glaucoma patients of whom 36 per cent were Negroes at the Veterans Hospital. In other clinics at the Louisville General Hospital Negroes made up 50 per cent of all patients, and at the Veterans Hospital about 11 per cent. The author concluded, therefore, that the Negro is much more apt to develop glaucoma than the Caucasian. He also believed that Negroes develop primary glaucoma at an earlier age than do whites. As other authors have reported, glaucoma appeared more severe in Negroes and more difficult to correct. He did not feel that Negro clinic patients were any less cooperative in following medical advice than white clinic patients. He noted that the trabeculum in Negroes both with and without glaucoma frequently was covered with pigment, and heavily pigmented strands often are seen in front of the trabeculum; whether or not this has any bearing on the racial difference in behavior of the disease is not known.

On Friday morning, January 11, a prevention of blindness symposium was held with Dr. Derrick Vail of Chicago as chairman. Among the speakers were Miss Evelyn M. Carpenter of Philadelphia and Dr. Franklin M. Foote of New York. Certificates of honorary membership in the U. S. National Society for the Prevention of Blindness were presented to Dr. Luis Sanchez Bulnes, President, and Sra.

Adela Formoso de Obregon Santacilia, Presidente Patronato of the Mexican Association for the Prevention of Blindness.

At the same session, Dr. William L. Benedict, Vice-President of the National Society for the Prevention of Blindness presented the Pan-American Gold Medal to Dr. Alberto Vazquez Barriere of Montevideo in an impressive ceremony:

"In 1946, the National Society for the Prevention of Blindness of the United States voted to present a gold medal, on the occasion of the quadrennial Pan-American Congress of Ophthalmology, to the individual in the Western Hemisphere believed to have made the greatest contribution to the prevention of blindness. The first gold medal was presented in January, 1948, to Dr. Harry S. Gradle. It is a great privilege and an honor for me to represent the National Society at this time in making the second award of the gold medal. Members of the National Society's committee on the award include: Dr. Moacyr E. Alvaro of Brazil, Dr. Luis Sanchez Bulnes of Mexico, Dr. Baudilio Courtis of Argentina, Dr. Tomas R. Yanes of Cuba, and Doctors Conrad Berens and William L. Benedict of the United States. I bring to you today their unanimous decision for the 1952 award.

"The recipient this year is an ophthalmologist from Montevideo, Uruguay, who graduated from the Montevideo School of Medicine in 1905, and then spent three years studying ophthalmology in Europe under Prof. Ernst Fuchs, Doctors Salzmann, Meller and Wintersteiner of Vienna; Professors Axenfeld and Stock of Freiburg; and, in Paris, with Prof. de Lapersonne and Doctors Valude and Kalt.

"Returning to his native land, he not only engaged in an active private practice but began his participation in both teaching and research in ophthalmology, under Prof. Isola, at the Montevideo School of Medicine. In 1929, he was appointed Professor of Ophthalmology, so he has had a great influence on the teaching throughout Uruguay. As one of the organizers of the Pan-American Association of Ophthalmology, in 1939, it is evident that his influence in teaching and research has extended to many other countries in this hemisphere. In 1933, he was appointed Director of the Center of Prophylaxis of Blindness and Combat Against Trachoma of the Ministry of Public Health of Uruguay, a position which he holds today. He felt this governmental appointment to be a challenge and entered upon this additional task with his well-known enthusiasm and energy. He succeeded in getting outstanding legislation enacted by the Republic to control such blinding conditions as ophthalmia neonatorum. He studied the causes of blindness throughout the country, initiated an intensive and successful program against trachoma, promoted measures to reduce eye hazards in industry, worked with the Department of Education to improve both eye care and illumination in the schools, and was concerned with the many eye problems of the general public.

"His broad outlook, his interest in his fellow man, and his community spirit are shown in his very active participation in Rotary International.

"In 1945, he undertook the tremendous responsibility of organizing and serving as President of the Second and highly successful Pan-American Congress of Ophthalmology held in Monte-

video. Since 1946, he has been a valued ophthalmological consultant to the National Society for the Prevention of Blindness of the United States. He has served as Vice-President of the International Association for Prevention of Blindness; he is an Honorary President of the Pan-American Association of Ophthalmology and for some years has served as Chairman of its Committee on the Prevention of Blindness.

"Because of his contributions to eye research, to the teaching of ophthalmology, and to the development of sound programs for the prevention of blindness, it is a great pleasure to present the Pan-American Gold Medal to Professor Alberto Vazquez Barriere."

Chile was chosen as the seat of the next Pan-American Congress to be held in 1956. Newly elected President of the Pan-American Association to succeed Dr. Conrad Berens was Dr. Moacyr E. Alvaro of Sao Paulo, Brazil.

World Health Organization

National Society Cooperates With CARE-WHO

The National Society for the Prevention of Blindness (U. S. A.) has given wholehearted endorsement to the CARE-WHO medical aid program announced in January, 1952, and has contributed substantial supplies of its publications, "Eye Health—A Teaching Handbook for Nurses" and "Toxic Eye Hazards" for distribution by CARE-UNESCO Book Fund.

Faced with overwhelming evidences of acute medical needs, WHO is turning to private agencies to aid improvement of health standards throughout the world. CARE has been selected as the channel to enlist American public support.

Under the CARE contract with WHO, WHO will furnish CARE with the neediest projects, advise on program content, and suggest recipient institutions for supplies and equipment. CARE will translate WHO's requests into projects and packages, publicize the need, make the necessary purchases and ship to the recipient institutions overseas. All projects will have the endorsement of the governments concerned and of WHO.

Argentina

Argentine Ophthalmological Congress, 1953

The fifth Argentine ophthalmological congress will be held in Buenos Aires in May, 1953. The executive committee hopes the congress will be supported by ophthalmologists everywhere.

Professor Jorge L. Malbran, President of the congress, extends a cordial invitation to members of the National Society for the Prevention of Blindness to attend. Those interested in a preliminary copy of the program should write to Dr. Malbran at Casilla de Correo, 2699, Buenos Aires, Argentina.

Egypt

National Society Scholarship Student Named to Post in Alexandria

Yehia H. Darwish has been appointed director of the department of social service in Alexandria and is responsible for services to an area that includes 1/10 of the Egyptian population. Mr. Darwish served on the committee which formulated the new

Social Security Bill, the first of its kind in the Arab world. This bill includes provisions for vocational rehabilitation of the physically handicapped which may set a pattern for countries with traditions and social conditions similar to those in Egypt. Mr. Darwish was one of the scholarship students of the National Society for the Prevention of Blindness (U. S. A.) at the New York School of Social Work, during the school year 1947–1948.

India

Causes of Blindness in Bengal

Patients in the Eye Infirmary of the Medical College Hospital in Calcutta, which has a large out-patient clinic serving an enormous population, were studied to provide basic figures on causes of blindness in the Bengal area. The definition of blindness used was inability to count fingers at 3 feet. Over a period of two years all cases of bilateral or unilateral blindness were given special eye examinations by E. J. Somerset or Nirmal Ghose who reported the results of their study to the All-India Ophthalmological Society in 1951.

It is pointed out that the figures are not typical of India as a whole, especially since the prevalence of trachoma is low in the area studied and the group included about 50 per cent of cases (chiefly cataracts) in which vision could be restored by treatment. Nevertheless, the findings of the study are of interest as providing the basis for planning prevention and treatment services in the Bengal area.

The study covered 4,047 cases, 1,431 being blind in both eyes and 2,616 blind in one eye. The rates of blindness were found to be quite uniform for the two sexes and the two religious groups (Hindus and Muslims). On the basis of their study and indefinite data available from other sources, the authors estimate that the blindness rate is 500 per 100,000 population, or a total of 2,000,000 in India and Pakistan.

Briefly the causes of bilateral blindness in the group studied are:

	% of Total
Infectious diseases—25%	
Local eye infection	6.0
Syphilis	6.6
Trachoma	5.6
Septicemia	2.4
Smallpox	2.4
Other and not specified	2.0
Trauma—0.6%	
Neoplasms—0.2%	
General diseases—10.1%	
Nutritional deficiency	8.3
Other and not specified	1.8
Congenital—4.3%	
Cataract	2.2
Structural anomalies	1.6
Other and not specified	0.5
Etiology undetermined—59.8%	
Cataract (senile)	50.6
Glaucoma (primary)	8.3
Refractive errors	0.9
TOTAL*—100%	

* Based on 1,344 cases of bilateral blindness, same cause both eyes.

United Provinces Approve Plan for Prevention Program

The Government of Uttar Pradesh (United Provinces) of India has given official approval to an organized plan for bringing ophthalmic prevention and treatment services to the rural population.

Under this plan the state will be divided into zones, which in turn are divided into clinic districts. Each district is to have an Eye Relief Society which is in effect a cooperative community agency composed of appropriate medical, social and administrative officers of the local area, serving as officers of the Society, and general members whose donations will provide financial support. A suggested draft of a standard constitution for these societies outlines their purposes and responsibilities as follows:

"Whereas it is expedient to organise the Eye Relief work in the State of Uttar Pradesh with the object of providing scientific and standard treatment to both urban and rural population, to educate the people on ocular hygiene for prevention of eye diseases and consequent blindness, to provide in the State a net-work of ophthalmic Institutions and to stamp out quackery, the following Constitution is adopted for District Eye Relief Societies of ——— district for the purposes aforesaid:

"1. To carry out eye relief work in the urban and rural areas on scientific lines;

"2. To organise eye relief work through Mobile Units or otherwise with adequate pre-operative, operative and post operative arrangements;

"3. To educate the masses in the prevention of eye diseases and in ocular hygiene by means of lectures, literature, films, exhibitions and through other descriptive method;

"4. To establish District Clinics and affiliate them to the Base Hospital approved for this purpose by the State Government;

"5. To co-ordinate the activities of various institutions of the district in this field;

"6. To make arrangements for the Vocational and cultural education of the blind and to rehabilitate them;

"7. To hand over any ophthalmic institution that may be established by the Society to any other body for management or to take over any institution for the same purpose;

"8. To do or undertake all such other acts and things as may be requisite in order to promote the objects of the Society."

Mobile Eye Hospital Units will provide complete eye hospital service, including examination, out-patient care, surgery, medicine and hospitalization. Treatment is to be given free or at only nominal cost if the patient can pay. Where necessary lodging and meals will be provided also. The Hospital Units, which will be provided by the Base Eye Hospital of the zone, will be moved from district to district at intervals of three weeks to one month. The Base Hospitals will also be utilized as centers for post graduate training of physicians in ophthalmology to insure adequate professional staff for the program.

The plan is already operating in two zones, organized around the Gandhi Eye Hospital in Aligarh and the Sitapur Eye Hospital, and it is expected that the entire state will be covered in 15 years.

The guiding spirit in the formulation of the plan is Dr. Mohanlal, who

spent some time in the United States, as well as other countries, studying prevention of blindness methods.

Penicillin Factory To Be Built in India

Last July the Government of India signed an agreement with the World Health Organization and UNICEF for assistance in building a penicillin factory near Poona. Under the agreement, WHO will spend about $350,000 on technical assistance in building the plant and getting production started. UNICEF will provide plant equipment and machinery valued at $850,000. The Government of India will retain full control over construction, operation and maintenance of the factory and its staff.

New Library To Include Braille Books for the Blind

An experimental public library, a joint effort by India and UNESCO, was recently opened in Delhi by Prime Minister Nehru, who described it as "a new venture . . . for children and adults who have recently become literate." A special section will be supplied with Braille books and talking books for the blind, whose needs are steadily gaining recognition.

Indo-China

Trachoma in North Viet Nam

Trachoma, an endemic disease in Indo-China, is gradually being brought under control thanks to the anti-trachoma service established in North Viet Nam, September 9, 1950. Dr. Pham Van Tien, director of the Ophthalmological Institute in Hanoi says that trained crews, which form mobile ophthalmological brigades, work in all the villages of the provinces of North Viet Nam. They stay for a week in each village, treating all trachoma victims with aureomycin provided by American Relief. Observing the distressing symptoms of trachoma lessen, the population welcomes these crews enthusiastically. Posters and other publicity materials are used in an intensive educational program to teach eye hygiene to large numbers of people whose poverty makes buying soap a luxury. A drive is also under way to build many more wells for rural people accustomed to washing with polluted marsh water.

Japan

Eye Hygiene Program

The Japan Association for Eye Hygiene is moving forward in its prevention of blindness program through a nationwide public education campaign and a national classification of causes of blindness, it was recently announced by Miss Masano Koyama, executive secretary, Tokyo. Formerly the National Association for Welfare of the Blind, the organization changed its name for the purpose of concentrating on efforts to conserve existing vision and eradicate preventable blindness.

North Africa

Trachoma Rampant in Libya

Trachoma is the most important eye disease in Libya, says Dr. D. K. Lindsay, WHO consultant, who has just completed a six-month survey there as one of a group of U. N. technical assistance experts. Dr. Lindsay states that about 30 per cent of the

people show signs of active or past eye inflammations, adding that up to 10,000 of a total population of about 1,000,000 are totally blind and another 100,000 have seriously defective vision.

Saudi Arabia

Sight Saving for Desert People

Changing conditions among the desert people of Saudi Arabia are showing them that eyes good enough for herding sheep are not good enough for reading books, and, gradually, they are getting used to wearing glasses and taking better care of their eyes. For the first time in history their government now has a position of Minister of Health. British-Arab cooperation has resulted in the opening of the Jedda Ophthalmic Hospital in 1950 to which patients come from distant parts of Saudi Arabia by car, camel, bus and by boat, to receive treatment for trachoma, cataract, trichiasis, conjunctivitis and many other eye conditions. In charge of the hospital is a British ophthalmologist, the only British subject in the hospital, all others being trained local Arabs. Cost of upkeep of the hospital is borne by the government of Saudi Arabia. The United Kingdom provided much of the equipment. In 1951, the hospital treated approximately 5,000 patients, of whom more than 1,000 needed major operations.

South Africa

Council Reports Nongoma Eye Survey

"The incidence of preventable blindness in this area is far lower than in most of the other areas so far surveyed," according to the report on the Nongoma ophthalmological survey conducted by the Bureau for Prevention of Blindness of the South African National Council for the Blind, Pretoria, July, 1951. From the register of blind persons the incidence of blindness in this area is 1.4 per 1,000, and even allowing for those not registered it is estimated that the incidence would not exceed 1.8 per 1,000, which is the lowest of any native area surveyed. The two most prevalent eye diseases were pterygium, 69 cases out of 1,087 examined, and cataract, 87 cases. A small percentage of the former required operation and a fair percentage of the latter were operable.

The survey party received valuable assistance from the Natal Bantu Blind Society which provided pamphlets on eye hygiene in Zulu for distribution among the natives.

Spain

Causes of Blindness in Madrid

In a study of the causes of blindness among 4,386 blind persons in Madrid, E. Soriano reports that 19.5 per cent were due to infections (especially trachoma). Percentages due to other causes are: 18.1, to cataracts; 13, to myopia, lesions of the fundus, detachment of the retina; 7.5, to injuries; 6.1, to congenital or hereditary lesions; 0.9, to sympathetic ophthalmia; 7.5, to leukomas; 9.1, to papillary atrophy; 6.2, to uveitis; 3.9, to glaucoma; 1.4, to retinitis; 4.7, to various affections. In Dr. Soriano's opinion 76 per cent of blindness from these causes are preventable.

Note and Comment

Summer Courses for Teachers of the Partially Seeing

The National Society for the Prevention of Blindness has received word from the following universities and colleges that, during the summer session of 1952, they will offer complete elementary courses as recommended by the Society for the preparation of teachers and supervisors of partially seeing children. Details regarding the courses may be obtained directly from the colleges and universities:

Illinois State Normal University, Normal, Ill.
The Ohio State University, Columbus, O.
San Francisco State College, San Francisco, Cal.
Wayne University, Detroit, Mich.

The following schools advise that they will offer courses that cover some phases of the work with partially seeing children:

Ball State Teachers College, Muncie, Ind.
Catholic University of America, Washington, D. C.
Teachers College, Columbia University, New York, N. Y.
Hunter College of the City of New York, New York, N. Y.
Los Angeles State College, Los Angeles 29, Cal.
University of Tennessee, College of Education, Knoxville, Tenn.

In addition to the above, Illinois State Normal University will offer an advanced course, "Workshop for Teachers of the Partially Seeing S359."

May 1—Child Health Day

On May 1, 1952, the nation will focus attention on child health programs to be followed during the year, in keeping with a custom started over 25 years ago. The following words of Mildred Arnold of the Children's Bureau, Washington, D. C., pinpoint the needs of the handicapped child in these programs, "I do not think it can be too strongly emphasized that a handicapped child is still a person—an individual, with human needs; a part of a family; a part of the community. His needs do not stop with his physical handicap. They are the same, and usually in greater measure, as those of any other child in the community. We must make whatever special effort is necessary to meet those needs and make the handicapped child a true part of the community in which he lives."

Heredity vs. Environment

In a recent lecture at the New York Academy of Medicine, Theodore H. Ingalls, M.D., associate professor of epidemiology, Harvard School of Public Health, described experiments on the effects of heredity and environment. Pregnant mice were deprived of oxygen by being placed in a vacuum chamber with an air pressure approximating

that at the top of Mount Everest. The mice produced a large percentage of defective offspring, the defects varying according to the stage of pregnancy in which oxygen deprivation occurred. Said Dr. Ingalls, "Cleft palate was a common result of exposure on the fourteenth day, and a curious defect of the eye and eyelids—so-called 'open-eye'—when pregnancy had advanced to about sixteen days." He believes environment and heredity are overlapping influences with one dominant in one situation, the other in another.

Wise Owl Club Membership Up 65%

Commenting on the phenomenal growth of the National Society's Wise Owl Club during 1951, Dr. Foote, executive director, announced recently that there are now 2,392 members or an increase of 65 per cent over the preceding year. To become a Wise Owl, a worker must prove that his sight was saved by wearing safety glasses. Dr. Foote added that a total of 431 plants, employing about 700,000 workers, now sponsor chapters of the Wise Owl Club.

Pittsburgh Association Makes Program Change

The Pittsburgh Branch of the Pennsylvania Association for the Blind, Prevention of Blindness Department announces a change in its program whereby it is no longer responsible for follow-up in the city of Pittsburgh of newborn babies with discharging eyes. The Association had carried this program since 1935, but in 1950 turned it over to the City Department of Health. Transfer was completed in 1951. The Association retains responsibility for babies in Allegheny County, though the number is small.

Baltimore Bans Sale of Slingshots

A recent ordinance passed by the City Council in Baltimore provides that, "It shall be unlawful for any person to sell any metal knuckles, slingshot, slung shot, sand club or blackjack in the City of Baltimore, except that blackjacks may be sold to duly qualified police officers, or to any person having a permit from the Police Commissioner to permit him to make such purchase or purchases. . . ."

Arkansas Committee and National Society Form Alliance

Recent acceptance of the Arkansas Sight Conservation Committee, Little Rock, of the invitation to serve as the state advisory body for the National Society is regarded by both as of benefit to their mutual prevention of blindness activities. Since January, 1952, the two organizations have worked together in carrying out the recommendations of the report submitted to Arkansas' Governor McMath by the National Society, based on the survey made in 1951.

Light-weight Cataract Bifocals

Cataract bifocals weighing only half as much as those of glass have recently been announced by Robert Graham, research director of the Armorlite Lens Company, Pasadena, California. The lenses are cast from a recently developed optical resin which is highly resistant to abrasion. Spherocylindric as well as spherical corrections are produced throughout a wide range. The bifocals are of one-piece construction with round segments 21 mm. across.

Maryland Trains Women Volunteers For Vision Testing

A new program of the Maryland Society is the training of women volunteers to assist public schools with vision testing. Qualifications include liking children, having free time and willingness to work for the community.

Robert B. Irwin, LL.D., 1883–1951

Dr. Robert B. Irwin, retired executive director of the American Foundation for the Blind, died on December 12, 1951. He had been executive director of the American Foundation for the Blind from 1929 to 1950, during which his leadership in the amelioration of blindness and the welfare of the blind was of incalculable benefit to the blind and workers for the blind throughout the world. When he was supervisor of classes for the blind in the Cleveland public schools, 1909–1923, he was responsible for bringing about establishment of their first class for partially seeing children in the public schools of Cleveland in the fall of 1913.

Dr. Vail Adviser to VA

Derrick T. Vail, M.D., professor and chairman of the department of ophthalmology at Northwestern University, became chairman of the special medical advisory group of the Veterans Administration in January, 1952, VA announced.

Dr. Vail succeeds Charles W. Mayo, M.D., of the Mayo Clinic, Rochester, Minnesota, who has been chairman of the group since it was organized six years ago. Dr. Mayo will continue as a member of the group.

Dr. Vail is editor of the *American Journal of Ophthalmology*. During World War II, he served as a medical officer in the U. S. Army, assigned to duty as the chief consultant-ophthalmologist of the European Theater of Operations and later as chief consulting ophthalmologist in the Office of the Surgeon General in Washington, D. C.

The special medical advisory group is composed of 20 members, all nationally known in the field of medicine, nursing and social sciences. They constitute the top medical advisory group in VA under the provisions of the law that provided for the creation of VA's department of medicine and surgery in 1945. They serve in an advisory capacity in the establishment of policies for the department of medicine and surgery.

Eye Injuries During Anesthesia

Speaking on "The Physician's Opportunity in Preventive Ophthalmology" at the New York Academy of Medicine, January 21, 1952, Isadore Givner, M.D., of New York University Postgraduate Medical School, described a new type of eye injury that sometimes occurs during anesthesia. He reported on 12 patients he and other ophthalmologists had seen who had suffered a closure of the central retinal artery as a result of pressure on the eyeball during inhalation anesthesia. These 12 patients included 4 previously reported in the *Archives of Ophthalmology* for February 1950. In only one patient, said Dr. Givner, did the sight return to the damaged eye. He reported that patients with a low nasal bridge seemed to suffer more as a result of inadvertent pressure on the eyeball during anesthesia, particularly if they had shock or excessive loss of blood during the opera-

tion. He urged that surgeons and anesthetists be on the alert to avoid pressure on the eyes.

Effect of Lobotomy and Electroshock on Intraocular Pressure

A talk given at the Eastern Section of the Association for Research in Ophthalmology, Ann Arbor, Michigan, February 1, 1952, presented a study made at the Toronto Psychiatric Hospital of the effect on intraocular pressure of lobotomy, or severance of the fronto-thalamic fibers, and of electroshock in an unselected group of patients, free from ocular disease. No demonstrable change occurred in the intraocular pressure after lobotomy, but there was a sharp rise followed by a slower return to previous levels after electroshock. The study was made by Maria Arstikaitis, M.D., and Harold Hodgson, M.D., University of Toronto, Toronto, Ontario.

American Foundation Expands Staff

The appointments of Nathaniel J. Raskin, Ph.D., of New York City as director of research planning, and Miss Pauline M. Moor of Boston as consultant in education of preschool blind children were recently announced by M. Robert Barnett, executive director of the American Foundation for the Blind. Dr. Raskin is a highly trained specialist in educational, clinical, and neuro-psychology. Miss Moor, well known in her specialized field, had been associated with the Massachusetts Eye and Ear Infirmary since 1946 as a preschool teacher.

High School Includes Vision Course

Electrical students at Bethlehem High School, Bethlehem, Pennsylvania, are now getting a special course on lighting and vision in an expanded curriculum that includes an audiovisual auxiliary course of 12 weekly classroom sessions.

Glaucoma Research Grant Awarded

Charles K. Ascher, M.D., assistant professor of ophthalmology, University of Cincinnati College of Medicine, has recently received a grant of $23,488 from the Surgeon General for research in glaucoma.

Minnesota To Study Prematurity

Prominence of prematurity and congenital malformations in the infant death rate in Minnesota has prompted a study of the problem by the Division of Vital Statistics, Minnesota Department of Health. Mr. J. W. Brower, acting director of the Division, says that the new birth certificate form, adopted by the state in 1950, affords basic statistical information regarding existence of congenital malformations for all births. Special studies of survival rate in these infants are also being made.

Action on Eye Solutions

Word has been received from the Office of the Secretary of the Council on Pharmacy and Chemistry of the American Medical Association regarding its recent action on acceptability of ophthalmic preparations. It voted that no ophthalmic preparations would be accepted by the Council unless sterility tests are made by manufacturers before release of the finished package.

Boston University
School of Education
Library

New Desk Available

Announcement has been received from the American Seating Company, Broadway and 9th Street, Grand Rapids, Michigan, of the availability by May 1, 1952 of a limited number of their desk No. 436 (universal unit in three sizes), with adjustable 50 degree reading top. All details should be obtained directly from the company.

Keystone Driver Vision Tests Installed

Applicants for driver's licenses in Arizona, Delaware, Maryland and Virginia, where Keystone driver vision tests were installed last year, are required to pass the tests which measure vertical balance, lateral balance, fusion, near acuity, distance perception and color discrimination. Because of the danger of driving with "tunnel vision," visual fields or side vision are tested with an instrument which is attached to the telebinocular. Keystone driver vision tests are also being used in Connecticut, Iowa, Louisiana, Maine, Nebraska, Oklahoma, Oregon and Pennsylvania.

National Society Elections

The National Society is pleased to report the election of Warren Palmer Dearing, Deputy Surgeon General, Public Health Service, Washington, D. C., and Miss Katharine Fisher, Director of Good Housekeeping Institute, New York City, to the Board of Directors.

New appointments on the Board of Editors of THE SIGHT-SAVING REVIEW include Mr. M. J. Nichols, Director of Safety, Reynalds Metal Company, Richmond, Virginia; Felix J. Underwood, M.D., Executive Officer, Mississippi State Board of Health, Jackson; and Derrick Vail, M.D., Editor, *American Journal of Ophthalmology*, Chicago. With the resignation of Miss Isobel Janowich as editor of the REVIEW, various assignments will be distributed among the Society's staff, the major responsibility being vested in Miss Florence Nelson, associate for industrial service, who will assume editorship; Franklin M. Foote, M.D., executive director, will be editor-in-chief.

Current Articles of Interest

Clinical Tonography, W. M. Grant, *Transactions*, American Academy of Ophthalmology and Otolaryngology, November–December, 1951, pp. 774–781.

Tonography is a method for measurement of facility of aqueous outflow and makes possible estimation of rate of aqueous formation. The author believes that in addition to its utility as a tool for research, tonography may have some clinical usefulness as an aid in choice of treatment for glaucoma patients, and also in establishing diagnosis in patients suspected of having glaucoma. For clinical purposes, tonography may be accomplished without special equipment other than a standard commercial Schiøtz electronic tonometer plus a special conversion chart. The author states that although it is thought that diagnosis by tonography may prove to be more dependable than by simple tonometry, some limitations apply to both. Gonioscopy of the angle of the anterior chamber is highly desirable for interpretation of tonographic results, for in narrow angle glaucoma tonography indicates glaucoma only when there is closure of part of the angle and not when the angle is entirely open, as it may be in a preglaucomatous stage. In wide angle glaucoma, on the contrary, tonography often does give indication of early glaucoma before it has become clinically overt.

Refractive and Ocular Findings in the Newborn, R. C. Cook and R. E. Glasscock, *American Journal of Ophthalmology*, October, 1951, Vol. 34, No. 10, pp. 1407–1413.

Report is made of 1,000 eyes of newborns studied under atropine cycloplegia. Of these, 74.9 per cent had hyperopia ranging from less than one diopter to 12 diopters. Over 50 per cent of the hyperopic eyes had a correction of less than one diopter to three diopters. Myopia ranging from less than one diopter to 12 diopters occurred in 25.1 per cent of the cases. Of the myopic eyes, 88 per cent had a correction of less than one diopter to five diopters. Astigmatism occurred oftener in hyperopia (38.8 per cent) than in myopia (27.3 per cent). Emmetropia is a rare finding in the newborn. The authors also discuss pupillary membranes, retinal hemorrhages, and miscellaneous findings.

The Ocular Findings of Intracranial Tumor, M. A. Petrohelos and J. W. Henderson, *American Journal of Ophthalmology*, October, 1951, Vol. 34, No. 10, pp. 1387–1394.

A study of 358 cases of intracranial tumor is reported. The authors make an evaluation of the signs of intracranial neoplasm which are encountered by the ophthalmologist from the standpoint of their significance in diagnosis. Among the findings dis-

cussed are incidence of papilledema, optic atrophy, nystagmus, and extraocular palsies.

Refraction for Binocular Comfort, A. Schlossman, *The Eye, Ear, Nose & Throat Monthly*, October, 1951, Vol. XXX, No. 10, pp. 533–536.

The aim in correction of refraction errors is to give the patient the best possible vision combined with the greatest amount of binocular comfort. Proper balance must be attained between the objective and subjective techniques. A good refractionist should have facility in all the important techniques, such as retinoscopy, fogging, the cross cylinder, and the method of manifest refraction. Above all he should check the correction by means of binocular refraction before writing a new prescription for glasses.

Horizontal Squint with Secondary Vertical Deviations, M. J. Urist, *A.M.A. Archives of Ophthalmology*, September, 1951, Vol. 46, No. 3, pp. 245–267.

Among 615 patients with horizontal squint, 79 per cent had a vertical component. More than 50 per cent of the patients with the combination of vertical and horizontal deviations could be classified into four clinical entities: group I, esotropia with bilateral elevation in adduction; group II, esotropia with bilateral depression in adduction; group III, exotropia with bilateral elevation in adduction; group IV, exotropia with bilateral depression in adduction. The author believes this classification practical because in cases which fall into these groups the horizontal squint is corrected first. If this is successful, whether by glasses, orthoptics or operation, the vertical deviation will be much improved or completely disappear.

Diagnosis and Management of Paralysis of the Extrinsic Ocular Muscles, T. K. Lyle and A. G. Cross, *British Journal of Ophthalmology*, September, 1951, Vol. XXXV, No. 9, pp. 511–548.

On the basis of a study of 219 cases of palsy of one or more of the extrinsic ocular muscles treated surgically with satisfactory "binocular" results, the authors are of the opinion that the majority of patients suffering from ocular palsy can be helped materially, and that many of them can be restored to a state of orthophoria in the primary position, and to binocularity within most of the visual field. They point out that many combinations of surgical procedure may be required and that results of similar surgical procedures are by no means uniform. Each case must be individually assessed if successful results are to be obtained.

Physiology of the Conjunctival Sac, A. M. Dean, *The Journal of the Iowa State Medical Society*, November,1951, Vol. XLI, No. 11, pp. 459–460.

This is a clinical discussion designed as a reminder of the normal goings-on and sensations of the surface of the eye. Dr. Dean has found that the understanding of such physiology of the normal conjunctival sac has enabled him to account for many clinical complaints. He calls attention to the person who complains that his eyes burn all the time, yet his eyes are clear, the refraction normal, and the extrinsic muscle balance and ductions

normal. The sensation this person has is the normal stimulus from the surface of the cornea to the brain, reporting that the cornea is dry and that the wink is due. It is a protective pain. Movies, television, smoking, dusts, fumes and gases contribute to the sensation that our eyes are burning. The normal burn-wink-tear reflex should not enter the conscious level. When it does and the patient is given the understanding that his symptoms are a part of normal modern living, he loses his fear and his burn-wink-tear reflex sinks down below the conscious level.

Background for the Use of ACTH and Cortisone in Ophthalmology, A. C. Esposito, *The Eye, Ear, Nose & Throat Monthly*, November, 1951, Vol. XXX, No. 11, pp. 593–596.

ACTH and cortisone have ushered in a new concept in disease control. Their dramatic effect on diseases of the connective tissue (collagen diseases) is the miracle of medicine today. The author believes that much of what remains unanswered about their mode of action and their uses will unfold in the near future. In ophthalmology, these drugs block inflammatory processes, thereby giving the ophthalmologist valuable time to help preserve vision. They do not cure anything, but without their use ophthalmologists would be unable to cure many ocular conditions which previously were resistant to treatment.

Terramycin in the Treatment of Trachoma, Y. Mitsui, C. Tanaka, H. Toya, Y. Iwashige and K. Yamashita, *A.M.A. Archives of Ophthalmology*, September, 1951, Vol. 46, No. 3, pp. 235–244.

Among the conclusions reached by the authors in a study of about 700 cases of trachoma treated with terramycin are: Early trachoma (less than two months' duration) responds promptly and well to terramycin without exception. Chronic trachoma (several years' duration) responds fairly well to terramycin: a combination of surgical and terramycin therapy gives far better results. Acute pannus and ulceration of the cornea uniformly respond promptly to terramycin treatment. In all these conditions, systemic administration alone seems to have little advantage over topical application. An ointment seems to be slightly more effective than a solution.

The Results of Various Operative Procedures in Acute Congestive Glaucoma, H. K. Goldberg, *American Journal of Ophthalmology*, October, 1951, Vol. 34, No. 10, pp. 1376–1378.

Operative results in 157 cases of acute glaucoma are summarized. Of 23 cases operated by posterior sclerotomy combined with various anterior segment operations, only three (13 per cent) were successful, while 20 cases (87 per cent) were failures. Nine patients operated by posterior sclerectomy with some secondary operation all showed unsuccessful results. Of 10 patients operated by the trephining operation, only two cases were successful. The cases in this group were advanced and severe, with poor operative prognosis from any operation. Of 46 patients operated by iridectomy, there were successful results in 81 per cent. The 58 patients, operated by iridencleisis, represented a more severe group than those operated by iridectomy. There were 78 per cent

successes in this group. Eleven of the 157 cases are not included in the author's summary because of unusual procedures in treatment which are discussed in the body of the report.

The Nurse and Sight Conservation, H. E. Weaver, *The American Journal of Nursing*, September, 1951, Vol. 51, No. 9, pp. 553–555.

Emphasizes the need for the student nurse to learn procedures followed in an eye examination; to become acquainted with her seeing environment; to understand the care and protection of her own eyes; and to know diseases and hygiene of the eye. The author calls attention to the opportunities for the nurse to teach eye health and sight conservation in the hospital, the community and in industry, and presents the principles to be followed by the nurse when asked questions about lighting in the plant, school or home.

Accountants Need Not Suffer Eyestrain, F. M. Foote, *The Journal of Accountancy*, October, 1951, Vol. 92, No. 4, pp. 454–455.

Accountants need not fear damage to their eyes from doing close work, provided they follow six rules for good lighting and reading habits: (1) sit erect, and arrange your work about 14 to 16 inches from your eyes; (2) give your eyes a rest from time to time as you work; (3) use light which is shaded at the eye-level, and diffused over a wide area; (4) avoid glare and reflection from polished surfaces; (5) don't read in the direct sunlight; and (6) have as little contrast as possible between the brightness of the surrounding area and the brightness of your desk.

The author advises those who follow these rules and still suffer from eyestrain to see their eye doctor, especially after the age of 40, for from then on the major blinding eye diseases occur.

Keep Your Lights Clean, G. S. Ketter, *Safety Maintenance & Production*, October, 1951, Vol. 102, No. 4, p. 28.

Among the things which the author states can be done to maintain lighting equipment are: keep lamps replaced; keep lamps and fixtures clean; keep surrounding reflecting surfaces clean; keep lighting equipment in operating condition mechanically and electrically. Such a program will enable a company to get its money's worth out of its equipment plus increased efficiency and improved employee morale, which in turn mean lower operating costs and improved safety records.

Glare—Enemy of Good Seeing, D. Martin, *Today's Health*, October, 1951, Vol. 29, No. 10, p. 44.

Calls attention to the two kinds of glare—direct and indirect—pointing out that the latter is the more insidious but neither is too difficult to control. If a surface gives off too much light in comparison with its background, it glares, whether directly, as from a too-bright lamp, or indirectly, as from a shiny page. Brightness is a comparative term and has nothing to do with the amount of light present. While illuminating engineers have instruments to measure the comparative brightness of surfaces, an individual does not need an illuminating engineer to try out comparative brightness conditions in the home, office or shop. His eyes cannot measure the exact

ratios, but if some surfaces shine back at him, he knows the light source is too bright in comparison with its background.

Role of Terramycin in Ophthalmology, N. G. Douvas, R. M. Featherstone and A. E. Braley, *A.M.A. Archives of Ophthalmology*, July, 1951, Vol. 46, No. 1, pp. 57–68.

The authors discuss terramycin hydrochloride solubility and stability; comparative drug sensitivities of bacteria; terramycin protection studies versus the herpes simplex virus; penetration of terramycin and aureomycin into rabbit aqueous humor; and their clinical studies with terramycin.

Specific Treatment of Infections of the Eye, A. Sorsby, *British Medical Journal*, September 1, 1951, No. 4730, pp. 539–541.

Directing his comments to general practitioners, Dr. Sorsby says that present-day treatment of eye infections is highly specific and calls for specific diagnosis. He believes that such general terms as conjunctivitis and keratitis are an inadequate basis for effective treatment, for they imply little more than that there is a lesion of the conjunctiva or cornea. There should be a clear understanding of the infective lesions of the eye as distinct from the inflammatory reactions and a working knowledge of the different types of infections. The author discusses diagnosis and treatment of infections of the outer eye and warns that infections of the inner eye are grave emergencies that must be left to the ophthalmologist. Treatment of ophthalmia neonatorum and trachoma are discussed.

Squint in Children, W. H. Fink, *GP*, September, 1951, Vol. IV, No. 3, pp. 53–62.

The material presented here is aimed primarily at general practitioners, since they are usually the first consulted by parents of children with crossed eyes. The family physician must point out to parents the importance of early treatment and that treatment is designed to restore binocular vision. The author discusses etiology, classification, diagnosis, results of neglect of strabismus, and treatment. He describes the various conditions in which orthoptics, surgery, or both are used.

Who Wears Spectacles? P. G. Gray, *The Lancet*, Saturday, September 22, 1951, Vol. CCLXI, No. 6682, pp. 537–539.

It is estimated that as of December, 1950, of 43,460,000 civilians in England and Wales, 19,210,000 wore spectacles. A higher percentage of women than men use spectacles at all—51 per cent as against 37 per cent. Also a higher percentage of women than men wear them all the time—20 per cent as against 12 per cent.

The Treatment of Blepharitis, D. Ainslie, *British Medical Journal*, Saturday, September 8, 1951, No. 4731, pp. 582–584.

Results of treatment with aureomycin of 30 cases of long-standing blepharitis and initial results in two cases treated with terramycin are reported. The author believes that antibiotics should be reserved for cases failing to respond to older treatments, but once treatment with an antibiotic is decided upon it should be conducted

with utmost vigor so as to reduce the danger of producing insensitive strains of the organism.

Research Gives the Answers, *Illuminating Engineering*, August, 1951, Vol. XLVI, No. 8, pp. 383–388.

A progress report of the Illuminating Engineering Society Research Fund covering the following subjects: (1) new visibility meter; (2) are low brightness ratios necessary?; (3) calculating brightness values in room interiors; (4) how the eye sees with various brightness patterns; (5) fatigue of outer muscles controlling movement of eyes; (6) is ability to detect flicker an index of fatigue?; (7) nervous muscular tension as an index of cost of seeing; (8) what do louvers do to daylighting in a classroom?; (9) how do colors of interior finishes change with various light sources?; (10) does the color of a light source affect the ability to see?; (11) how do reflectance variations at various angles influence seeing of pavements?; and (12) an improved basis for footcandle recommendations.

The Effect of Sunglasses in Protecting Retinal Sensitivity, R. H. Peckham and R. D. Harley, *American Journal of Ophthalmology*, November, 1951, Vol. 34, No. 11, pp. 1499–1507.

Experiments showed that visual response to light is reduced after excessive exposure to bright light without sunglasses. This can cause industrial and automobile accidents, especially in working under minimal illumination conditions and in night driving. This loss may amount to a reduction of light to one half its photometric value and, in many cases, more than this. The authors say that the problem of obtaining a sufficiently dark pair of sunglasses is acute, there being only a few available in the market. They suggest, as a pragmatic test, that if the wearer's eyes can be seen behind the lenses, the lenses are probably not dark enough.

Electroencephalogram and Eye Disorders, Clinical Correlation, J. D. Levinson, E. L. Gibbs, M. L. Stillerman, and M. A. Perlstein, *Pediatrics*, March, 1951, Vol. 7, No. 3, pp. 422–427.

The authors present a preliminary report of electroencephalographic studies, both awake and asleep, on 1,281 children under 16 years of age with respect to presence of eye abnormalities, particularly strabismus. Thirty per cent of 36 children with strabismus but otherwise normal, and only 0.5 per cent of 180 children entirely normal, had occipital abnormalities on their EEGs. In those with organic brain disease causing cerebral palsy, electroencephalographic foci in the occipital region occurred almost twice as frequently in the presence of abnormal eye findings. This relationship prevailed regardless of the presence or absence of seizures. In patients with eye disorders, electroencephalographic foci involving the occipital region were six times more common than all other foci combined. Children who show some neuro-ocular disorder should have a careful study of their EEGs for detection of a possible central basis for their pathology. Conversely, those who show an occipital focus on EEG should have a thorough ophthalmologic examination to rule out eye abnormalities.

Abstract of Paper: Further Efforts to Influence X-Ray Cataract by Chemical Agents, L. von Sallmann with the technical assistance of C. M. Munoz, *A. M. A. Archives of Ophthalmology*, January, 1952, Vol. 47, No. 1, pp. 21–22.

In a previously reported study on relation of cysteine treatment to x-ray damage of the rabbit's eye, there was strongly suggestive evidence that two characteristic late effects of such radiation, epilation and x-ray cataract, were partially prevented by cysteine prior to irradiation. These animals have been followed now over periods of 12 to 16 months. Total cataract has developed in the control group in 12 of 14 animals within 14 months. None of the cysteine-pretreated eyes showed at this time a lenticular opacity dense enough or extensive enough to interfere substantially with visibility of fundus details. In another series of 10 rabbits, the protective effect of locally applied cysteine was definite but moderate in the majority of animals, which is of interest especially in view of the high dose of x-rays used. The second part of the study concerned comparative analysis of microscopic signs of x-ray damage to the lens in cysteine-pretreated and control eyes. All clinical and microscopic signs of early x-ray damage to the lens were influenced to some extent by cysteine—a fact the author emphasizes, since it indicates that indirect biochemical mechanisms of x-ray action, and not direct "hits," must be responsible, at least in part, for these lesions. The last part of the study consisted of investigations in which chemicals other than cysteine were used—four sulfur-containing and four sulfur-free compounds. Results obtained on such material cannot be applied directly to the eye as far as lens protection is concerned.

The Ambulatory Treatment of Retinal Vascular Disease, F. W. Parker, *The Illinois Medical Journal*, December, 1951, Vol. 100, No. 6, pp. 358–361.

In retinal vascular diseases the eye is a mirror of a general condition. Vascular pathological changes can be watched from their inception to their termination. While research continues on the etiology of vascular disease, the problem of blindness grows, and until vascular disease can be prevented, the problem resolves itself into an attempt to prevent its complications. The author states that dicumarol can be given safely to ambulatory patients, has been proved to be effective in retinal vascular disease, and is at present the best anticoagulant available in prevention of complications of these diseases. He cites 23 cases of retinal vascular disease that have been maintained on dicumarol for from 5 to 30 months. Of these, 14 have maintained vision and the retinal lesions have not advanced during 6 to 30 months of ambulatory dicumarol therapy.

A Short Study of Iritis: Significance of Early Diagnosis and Treatment, J. Shanks, *The Illinois Medical Journal*, December, 1951, Vol. 100, No. 6, pp. 366–368.

Iritis is frequently mistaken for conjunctivitis and for inflammatory glaucoma. Fortunately there are important signs in the differential diagnosis. One of these is that in conjunctivitis there is a mucous discharge which glues the lids together, while in

iritis the secretions are thin and the lids are never glued together. The main difference between the pain of iritis and that of glaucoma is that in iritis it seldom brings on nausea and vomiting. In iritis the pupil is generally small, in glaucoma, large. In iritis the pain is relieved by atropine. In glaucoma the tension is increased, and the use of atropine might be harmful because it may further increase the tension. Among the varieties are syphilitic and gonorrheal iritis, tuberculous, traumatic, idiopathic, and iritis from septic infection from the teeth, tonsils, nose or nasal accessory sinuses. The consequences of an iritis which may impair vision are exudates and adhesions or synechiae. Among medicinal preparations used in the treatment of iritis are aureomycin, terramycin, ACTH and cortisone. Among surgical procedures used in complicated conditions of iritis are paracentesis, iridectomy and enucleation.

Effect of Maternal Smallpox Vaccination During Pregnancy on the Eyes of the Infants, S. S. Snyder, *American Journal of Ophthalmology*, December, 1951, Vol. 34, No. 2, pp. 1713–1715.

The eyes of 74 children of women who had had smallpox vaccinations during pregnancy were examined. No congenital cataract was found nor any evidence that smallpox vaccination of women during pregnancy had harmful effects on the eyes of the infants. The author offers the explanation that the relatively large variola virus does not pass through the placental barrier. The virus causing rubella is considered to be much smaller than the variola virus and consequently may pass through the placental barrier.

Clinical Ophthalmic Experience with Bacitracin, H. Eggers, *American Journal of Ophthalmology*, December, 1951, Vol. 34, No. 2, pp. 1706–1708.

Dr. Eggers concludes: "Bacitracin is a valuable addition to the ophthalmic therapeutic armamentarium. It is an effective local bactericide for external infectious conditions of the eyeball or eyelid, is not irritating, and is virtually nonallergic. In the absence of any special specific indications, it might well be the remedy of first thought and first choice."

Progress in Preventing Blindness, F. M. Foote and T. H. Johnson, *New York State Journal of Medicine*, November 15, 1951, Vol. 51, No. 22, pp. 2609–2612.

The authors point out that although progress has been made in preventing blindness, the increased longevity of our people and the higher survival rate for small premature babies have created new problems in eye disease. The nationwide program to save sight, therefore, includes (1) promotion of eye research; (2) preventive service: case-finding, case follow-up, vision testing, and industrial programs; and (3) education.

The Role of Heredity in Ophthalmology, H. F. Falls, *New York State Journal of Medicine*, November 15, 1951, Vol. 51, No. 22, pp. 2624–2627.

The role of genetics in ophthalmology is shown by pointing out its importance to the oculist in prognosis, diagnosis and prevention of ocular pathology. The eye affords an excellent structure for genetic study because of the accessibility of the ocular

structures for careful examination by precision instruments. Also, patients seek medical care early since minor alterations in structure or physiology often produce serious aberration of vision. The author offers five requisites for giving eugenic advice: (1) an accurate diagnosis or identification of the trait; (2) a thorough knowledge of the principles of human genetics; (3) a familiarity with the literature pertaining to the specific trait in question; (4) taking a pedigree of the family for the trait being studied; and (5) taking an extremely careful pregnancy history when confronted with a sporadic congenital anomaly.

Glaucoma, L. V. Kogut, *The Ohio State Medical Journal*, September, 1951, Vol. 47, No. 9, pp. 837–838.

At least 3,400 persons become blind from glaucoma each year, and approximately 800,000 people in the United States have the disease without knowing it. The increase in population of the older age group means an increase in the glaucoma problem, because the disease usually strikes the middle and older age groups. Glaucoma is a condition in which increased intraocular pressure results in atrophy of the optic disc and loss of vision. The kinds include chronic simple glaucoma, acute glaucoma and congenital glaucoma. Treatment defies standardization, being variable and unpredictable. However, the majority of ophthalmologists favor a trial of medical management before operation is advised. Early diagnosis is the most important factor in the prevention of blindness from glaucoma.

They're Helping Children See Straight, R. D. Kuehn, *The Johns Hopkins Magazine*, October, 1951, Vol.III, No. 1, p. 12.

The orthoptics training program at Johns Hopkins is presented. The aim of orthoptics is to develop single binocular vision in the patient's eyes. The orthoptist uses instruments and techniques which exercise the eyes in order to re-educate them in the correct process of seeing. Johns Hopkins offers both the theoretical and the clinical training of orthoptists under one program. It is believed that with early detection, early treatment, modern surgical procedures, orthoptics, and in many cases glasses, there is now hope that the cross-eyed child will be able to have straight eyes, both cosmetically and functionally.

Retrolental Fibroplasia, A Statistical Study with Particular Reference to the Effect of Vitamin A, J. Dancis, J. M. Lewis, and L. P. Guy, *The New England Journal of Medicine*, September 13, 1951, Vol. 245, No. 11, pp. 402–406.

Presents the incidence of retrolental fibroplasia in prematures at Bellevue Hospital, New York City, from November, 1946, to October, 1950. From November, 1946, to March, 1948, when water-miscible vitamin D was used, the incidence of retrolental fibroplasia was extremely low. Beginning March, 1948, a water-miscible multivitamin preparation containing vitamin A was substituted for vitamin D, the incidence of the disease remaining unchanged until May, 1949. This persistently low incidence for over a year makes it unlikely that the vitamin A preparation is a factor in producing

retrolental fibroplasia. Since May, 1949, the incidence has been rising, and as it has risen the infants with higher birth weights have become involved. The rise in incidence occurred despite the fact that practices concerning transfusions, supplementary iron, exposure to light and the initial starvation period did not change.

Malignant Melanoma of the Choroid and Ciliary Body: A Study of 2,535 Cases, H. C. Wilder and E. V. Paul, *The Military Surgeon*, October, 1951, Vol. 109, No. 4, pp. 370–378.

On the basis of a survey of 2,535 cases of malignant melanoma of the choroid and ciliary body, the authors regard the incidence as to age and race as of clinical importance, sex as of no significance. The incidence in Negroes was 0.43 per cent. The tumors were rarely recognized in persons under 20 years and were found most commonly in those in the sixth decade. The pure spindle cell tumors, as in the earlier series, have proved in general to be less malignant than those which contain epithelioid cells. The fascicular tumor stands, in degree of malignancy, between the spindle B and the mixed type. There is an increase in malignancy with increased pigment content. Although a large majority of deaths occurred in less than 5 years after enucleation, a moderate number of patients who ultimately died with metastasis survived this period. Based on 1,064 cases followed 5 years or longer the percentage of deaths from tumor was 45, whereas in 598 of these followed 10 years or longer the percentage was 62.2. Seventy-five per cent of patients with recognized extrabulbar extension died with metastasis.

Pathological Examination of Nine Cases of Retrolental Fibroplasia, B. A. Bembridge and C. R. S. Jackson, *British Medical Journal*, December 22, 1951, No. 4746, pp. 1484–1487.

The authors describe histological appearances of nine eyes enucleated in the late stage of retrolental fibroplasia. They consider that the condition is inflammatory in origin, but the cause of the irritation cannot be deduced from the histology.

Orthoptics, H. O. Gardner, *The Journal of the Iowa State Medical Society*, December, 1951, Vol. XLI, No. 12, pp. 491–495.

Presents facts and theories on origin and development of amblyopia, suppression and anomalous retinal correspondence. Orthoptic methods of diagnosis and treatment are discussed and development of binocular vision and fusion are outlined. The author quotes Dr. Lancaster, who wrote, "With the major amblyoscope the orthoptic technician has the situation firmly under control. There are no extraneous stimuli entering the situation. The technician can control the lights and movement of the instrument and can control the stimulus by the choice of targets, so that the patient is almost forced to make a correct response. Once he makes the response he is praised for it and encouraged to repeat it. Thus the patient learns. This is orthoptics."

Book Reviews

THE GLAUCOMAS. H. Saul Sugar, M.D., F.A.C.A. St. Louis: The C. V. Mosby Company, 1951. 469 p. Ill. $12.00.

Every so often a book needs to be written. Such a book is *The Glaucomas* by Saul Sugar. Doctor Sugar's experience in the field of glaucoma and his reputation as a clear thinker and a lucid writer are nowhere more evident than in presenting and discussing this most difficult subject.

This book is recommended for every student of glaucoma; beginner and "old-timer" alike will recognize the authoritative and comprehensive manner in which the material is presented.

Factual evidence in glaucoma is to be found everywhere but intelligent interpretation is rare. Doctor Sugar has admittedly avoided many controversies but he has tried to explain different points of view. Personal opinions are labeled as such and are supported by clear reasoning or by clinical evidence.

The contents embrace all phases of the subject from normal anatomy and physiology through pathological changes, the clinical and microscopic findings, the management by medicine and surgery and the problems involved.

Sufficient laboratory and research evidence is presented to explain and support the normal and abnormal physiology.

This is not the final word on "the glaucomas" nor is it intended to be, but it is a well-rounded presentation of present-day beliefs and understandings. It should be in the library of every ophthalmologist.

The book itself is convenient in size and is well made. The print is large and clear and the illustrations more than adequate.

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CORRECTIVE THERAPY FOR THE HANDICAPPED CHILD. Eleanor B. Stone and John W. Deyton. New York: Prentice-Hall, Inc., 1951. 315 p. Ill.

Many of those directly concerned with the education of handicapped children will have serious reservations about this book.

Those who believe that the physical therapist has an important role to play in the rehabilitation of post-polio cases, cerebral palsy victims, and others with varying orthopedic problems will be confused by the lack of delineation of function between the physical therapist and the corrective therapist or teacher.

Those who are interested in well-coordinated school health programs will feel that undue emphasis has been placed on the role of the rehabilitation teacher and that there is too little stress placed on the "team" approach in educating handicapped children.

Those who have had graduate training in any field of special education will not accept at face value such

statements as: "These people (corrective physical education therapists) are better equipped to understand the reactions of handicapped children than are other educators," and, "It is through centralization of authority in the corrective specialist, with the deeper pupil-teacher relationships possible, that physical and mental deviations may be more easily detected and treated."

Those who have specialized in guidance and counseling may object to having a corrective physical educator assume primary responsibility for overall guidance of any special group within the school.

Those interested in children with visual difficulties will find no concrete suggestions for individualized programs related to specific defects of the partially seeing. They will question, too, the statement: "All schoolteachers should watch for signs of difficulty with the eye and if any are noted, should immediately refer the child to the rehabilitation teacher and to the oculist for further advice." Teacher referrals are customarily made directly to the school medical adviser or, if there is none, to the nurse in charge of the health service program of the school. With her knowledge of and constant contact with community agencies and resources she is usually in a much more strategic position to obtain needed corrections and treatment than is the rehabilitation teacher.

The book contains many stereotyped generalizations and needless repetitions.

One idea or conviction, however, is repeated effectively throughout the text, namely: that all types of physically handicapped children develop to best advantage if and when physical circumstances permit them to attend regular schools and classes with normal children.

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LA VISION NOCTURNE ET SES TROUBLES. Gaetan E. Jayle and Albert G. Ourgaud, with the collaboration of P. H. Benoit, G. Blet and P. V. Berard. Paris: Masson Et Cie. 863 p. Ill.

This book is a monumental treatise on the disturbances of night vision and dark adaptation. G. E. Jayle, in association with members of allied sciences presented the study at the French Ophthalmological Society in July, 1950. Contained in this volume is a complete study and summary of the physiology and the physiological chemistry of the retina. The authors also discuss the disturbances of the retinal function as a result of drugs and general pathology. The chapters on the disturbances of this function in ocular pathology should be of great interest to all ophthalmologists. In the field of aviation medicine, and particularly for those interested in night flying, this book can be of great help. However, because of the fact that this volume consists of some 776 pages, there is little likelihood of its translation into English. It must remain a book of reference for English speaking ophthalmologists. The authors are to be commended on the excellence of their study.

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